



Make Way for Pollinators

Jennifer Hopwood, Xerces Society for Invertebrate Conservation

As we eagerly await the emergence of new buds, shoots, and blooms of spring, we are not the only creatures tuned in to nature's timetable.

Many pollinators follow a predictable schedule just like flowering plants, their seasonal emergence often synchronized with the blooming of specific flowers. This year, as you notice what's coming into bloom, take a close look at what's buzzing nearby. It's one of your friendly local pollinators, doing its important job of sustaining the ecosystem.

Get to know these gentle, hard-working creatures better, and you can make a fine home for them in your garden.

What's a Flower For?

The delicate showiness of a flower has a highly practical purpose. Plants cannot move to find their mates, and about 70 percent of flowering plants rely on animal pollinators to enable them to reproduce. Using their colorful petals and floral scents as advertisement of sweet sugary nectar and nutritious pollen, plants attract animal visitors that inevitably transfer pollen from



Native bumble bee sipping nectar. This is the female *Bombus fervidus*. Photo by MJ Hatfield.

flower to flower. Fruits and seeds, the product of plant reproduction, allow plant populations to persist and, as an added bonus, provide food for a variety of wildlife. We humans also depend on pollinators for a portion of our diet; 35 percent of our crops, including berries, tomatoes, squash, apples, and more are animal-pollinated.

Continued page 6

Inside

Xerces Society Invertebrate Conservation.....	3
Ecologist Noel Pavlovic, Part 2	4
Bittersweet Identification	5
Native Plants for Bees.....	7
2010 Plant Sale / Auction Preview	8
Kankakee Sands Restoration.....	9
Central Chapter Invasives SWAT Team	12
Events/Field Notes	14



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INPAWS JOURNAL is published quarterly for members of the Indiana Native Plant and Wildflower Society. Material may be reprinted with the permission of the editor.

All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

Please submit text and photos via e-mail to wwford@comcast.net or via land mail to INPAWS JOURNAL, 6911 Cabernet Way, Indianapolis IN 46278.

Submission deadlines for specific issues are as follows:

Spring
February 23 for April 1 mailing

Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the value, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

News and Views

Information to be shared with INPAWS members may be directed to membership@inpaws.org.

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Thinking Big



I'm excited to have the opportunity to be president of INPAWS for the next two years. I've been involved with nature my whole life, raised as a fisherman and converted to camping and hiking immediately after college. During all that time I constantly wanted to learn more about the plants, the trees, and occasionally the animals that I was seeing.

Since becoming interested in native plant gardening and joining INPAWS about ten years ago, I have been impressed by the diversity of both members and programs. INPAWS hikes draw a mixture of true experts and

amateurs like myself. The programs blend interests in gardening with natural area preservation and a healthy dose of concern for the lack of nature-related experiences for today's youth.

During our first quarterly meeting of the INPAWS Board and Council, I asked everyone to express what they would like INPAWS to accomplish during the next two years. I have some ideas of my own, but I wanted to find out what others were thinking. Some great goals were suggested. Obviously we can't do everything, but we will be revisiting some of those ideas in the next few months to see which ones we should and can work on.

Although INPAWS has a multitude of talented and active members, we do have one weakness: Much of our membership lives in central Indiana—not surprising, since that is the state's most populous area. Our local chapters are centered in Bloomington, Indianapolis, Lafayette, and Muncie. We need to increase our membership in the north and south and have active local chapters in places like Evansville, South Bend, Fort Wayne, Clarksville/New Albany/Jeffersonville and the Lake/LaPorte/Porter County area. And we certainly should not ignore Richmond and Terre Haute.

As INPAWS' new president, I am asking for your ideas and your help.

First, your ideas. Tell me what you would like to see INPAWS accomplish during the next two years. This can be things

Continued page 4



INPAWS PARTNERS

Xerces Society

The Xerces Society for Invertebrate Conservation is a member-supported nonprofit organization dedicated to the conservation of invertebrates and their habitat. Formed in 1971, the Society is at the forefront of invertebrate protection worldwide, harnessing the knowledge of scientists and the enthusiasm of citizens in service of conservation.

The Society's name serves as a reminder of their goal. It is named after the Xerces Blue (*Glaucopsyche xerces*), the first butterfly in the U.S. known to have become extinct due to habitat loss.

Butterflies, dragonflies, beetles, worms, starfish, mussels, and crabs are but a few of the millions of invertebrates necessary to a healthy environment. Invertebrates build the coral reefs of our oceans; are essential to the reproduction of most flowering plants, including many fruits, vegetables, and nuts; and are food for birds, fish, and other animals. Yet invertebrate populations are often imperiled by human activities and rarely accounted for in mainstream conservation.

The Xerces Society uses advocacy, education, and applied research to defend invertebrates. Over the past three decades, it has protected endangered species and their habitats, produced ground-breaking publications on insect conservation, trained thousands of farmers and land managers to protect and manage habitat, and raised awareness about the invertebrates of forests, prairies, deserts, and oceans.

Native plants play a large role in the Xerces Society's conservation strategies. "Native plants should be your first choice to help our native bees," says their fact sheet, *Upper Midwest Plants for Native Bees*, which lists both native and non-native genera that are good sources of pollen and nectar.

Find this and many helpful resources at www.xerces.org.

that we are already doing, but that we can do better or in a more expanded way. Or maybe you can suggest something brand new that's in keeping with our mission.

Next, your help. Help us expand our membership, especially in areas where we do not have a strong membership base. Can you interest your friends in what we do? INPAWS has great hikes in all parts of the state every summer. Bring a friend or two along and then recruit them to join.

If you know of a local organization that is looking for speakers, I love to talk about our organization. My talks promote native plant gardening and the various programs of INPAWS, with a bit of Richard Louv's *Last Child in the Woods* and Doug Tallamy's *Bringing Nature Home* thrown in. Any other thoughts on how to expand our membership would be appreciated. Comments by e-mail are preferred, but if you do not use e-mail you are welcome to call me. I look forward to hearing from you.

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Got Something to Say?

Say it in *INPAWS Journal*.

The *Journal* reaches 480+ member households, 105 affiliated organizations (other native plant societies, Indiana land trusts, libraries, cooperative extension offices), and occasionally 100 Indiana legislators (through additional printing funded by The Nature Conservancy).

We welcome articles on native plants, restoration projects, conservation issues, outreach efforts, botanizing expeditions, gardening with natives—anything likely to interest our readers.

Article development assistance and editing provided.

Please contact the editor with your ideas at wwford@comcast.net or 317-334-1932.

What a Snow Plant Can Do

Barbara Plampin, PhD
Shirley Heinze Land Trust

Part 2

*This article continues the story of plant detective Noel Pavlovic, Research Ecologist for the U.S. Geological Survey research station in Porter, Indiana. Botany captured Noel's interest when, at age six, he had to be dragged away from a red flower (snow plant, *Sarcodes sanguinea*) pushing up through Yosemite snows.*

Noel practices both large and small scale plant detection. Another office door exhibit: a sheet detailing differences between native and alien bittersweet. Realizing that oriental bittersweet (*Celastrus orbiculatus*) was overwhelming native plants and strangling trees, he formed a team to solve the first problem in its destruction: distinguishing it from the native, generally desirable American bittersweet (*C. scandens*) at all stages of growth in both sexes.

In fruit or in flower, the difference is fairly easy to see. Female natives flower and fruit in terminal panicles; female aliens in axillary cymes.

Distinguishing flowering male plants and both sexes vegetatively is harder, but Noel and team found significant, useful distinctions between male flowers, leaves at leaf-out, and mature leaves.

Native male flowers turn out to have yellow pollen and aliens white. At leaf-out, natives have involute (inward rolling) leaves and the aliens conduplicate (inward folding) leaves. About 90 percent of native mature leaves have a length : width greater than or equal to 2, and an equal percent of aliens have length : width less than or equal to 1.4. "Plants with leaf tips of 1.5 cm or greater have a 90 percent chance of being American bittersweet, while plants with leaf tips of 0.3 cm or less have a 90% chance of being oriental bittersweet" (Pavlovic et al., 2007).

Do the species hybridize? Yes, they can. Noel has suspicions about some Indiana bittersweet, and he and team hope to find out definitely and how frequently. Can fire destroy adult plants? No. Can it destroy seedlings? Again, Noel hopes to find out.

In small-scale detection, Noel depends on earlier wide reading—doesn't have to look most things up: "No time!" He also depends on observation, recognizing when a plant is unknown, research, the ability to make meaningful comparisons, serendipity, and "just poking around."

These traits have led to Noel's adding almost 25 species to the Lakeshore roster. Last summer, he and the team stumbled on a single ladies' tresses orchid in a depauperate ground layer with bedstraw (*Galium* sp.) and garlic mustard. "It looked weird," says Noel, perhaps because each flower's backward curving lip resembles, some think, an elephant's trunk. Hence the name "little elephants." The usual name: oval ladies' tresses (*Spiranthes ovalis*), Indiana watch list.



Oval (or October) ladies' tresses have earned the name "little elephants." Photo from USDA PLANTS Database.

Other finds include two populations of Hall's tufted bulrush (*Scirpus hallii*), Indiana's second population of Canada blueberry (*Vaccinium myrtilloides*), both state endangered, and a new population of golden saxifrage (*Chrysosplenium americanum*), state threatened. From the

number of times he's mentioned it, Noel seems much prouder of finding what Swink and Wilhelm call a "native weed," Aunt Lucy (*Ellisia nyc-telea*), a waterleaf cousin.

Hiking one day in Dunes State Park, Noel exclaimed, "There's going to be a prairie over this dune," and he was right. He'd predicted a prairie missed by decades of hikers. The clue: he'd recognized, even though another kind of dune covered one end of it, a parabolic (C-shaped) dune, and he remembered that our local Howes Prairie, where he'd done research, was partially framed by such a dune.

Will Noel's hypothesis about state-endangered blue hearts (*Buchnera americana*) turn out to be true? Blue hearts with its blue-purple, somewhat phlox-like flowers went missing after long years of drought from its duneland prairie home about 1997. Is it extinct? "Not necessarily," says Noel, pointing out that, like other cryptic plants, it may be hanging on as subterranean buds waiting for the right conditions to reappear. Noel remembers its last emergence in a drier year after years of heavy rains.

Because the Dunes have enjoyed heavy precipitation for the last three years, blue hearts may return in a dry or drier year. May Noel be right.

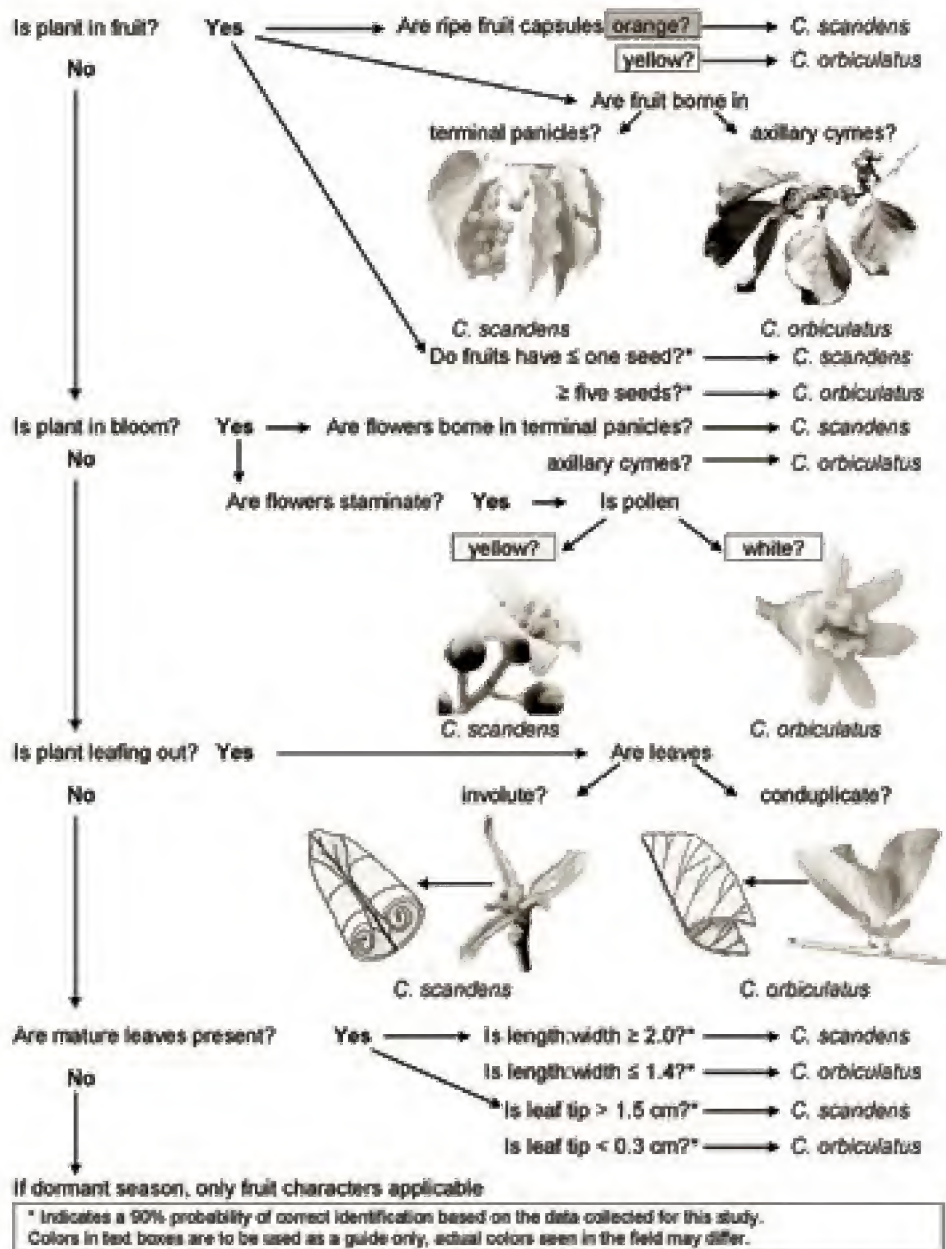
References

Leicht-Young, S.A., Pavlovic, N.B., Grunder, R., and Frohnapple, K. (2007) Distinguishing native (*Celastrus scandens* L.) and invasive (*C. orbiculatus* Thun.) bittersweet species using morphological characteristics. *Journal of the Torrey Botanical Society* 134: 441-450.

Pavlovic, N. et al. GLSC Fact Sheet 2007-2, U.S. Department of the Interior, U.S. Geological Survey. Great Lakes Science Center, Ann Arbor. www.glsc.usgs.gov. Page two shown here. ►

Swink, F., and Wilhelm, G. *Plants of the Chicago Region*. 4th edition. Indianapolis: Indiana Academy of Science, 1994.

Bittersweet Identification American (*Celastrus scandens*) vs. Oriental (*C. orbiculatus*)



Collaborators: Noel B. Pavlovic, Stacey Leicht Young, Ralph Grunder, and Krystalyan J. Frohnapple

Meet the Pollinators

Bees, butterflies, moths, hummingbirds, some bats, some beetles, flies, and wasps are all pollinators. Among these, the bees, which actively gather pollen to provide food for their offspring, are considered to be the most important group. With their extremely hairy bodies adapted for transporting sticky pollen grains and their excellent navigational capabilities, bees are efficient pollinators of wildflowers and crops alike.

Honey bees (*Apis mellifera*), introduced to North America by early European settlers for honey and wax production, are the most familiar of bee species, but at least 4,000 species of native wild bees call the U.S. their home.

Most native bees are solitary, with each female working alone to build her small nest and provide pollen moistened with nectar near each egg she lays so her offspring have plenty to eat while they grow. Nearly 70 percent of bee species nest underground, digging slender tunnels in which they build cells for each egg and provisions. Other bees nest in cavities, chewing into the pithy center of stems, or nest in existing holes, sometimes man-made. Some bees use materials such as mud, resin, and portions of leaves or flower petals to construct their nests.



Halictus species (also a sweat bee) on New England aster. Photo by MJ Hatfield.

Bumble bees (large, especially fuzzy bees in the genus *Bombus*) form social colonies founded by a queen, who sits on her clump of eggs to keep them warm, similar to birds incubating their eggs. A bumble bee colony can grow in size through the spring and summer as the bees work cooperatively to raise offspring and find food. Bumble bees tend to nest under clumps of bunch grass or in old rodent nests.

Other insect pollinators do not build nests. Butterflies and moths generally lay their eggs on or next to specific plants upon which their caterpillars will eventually feed. For example, Monarch butterflies (*Danaus plexippus*) lay their eggs on milkweeds (in the genus *Asclepias*), because their caterpillars feed exclusively, and so are dependent, upon milkweeds. Leaf litter and dead vegeta-



This metallic green native bee, *Augochora pura*, looks for nesting sites in rotted wood. Photo by Eileen Miller.

tion can have value to moths and butterflies, which nestle under them during the winter. Other insects, such as some beetles and hover flies, are pollinators as adults but carnivorous as larvae, also dwelling in leaf litter where they prey on small insects.

Gardens and Pollinator Conservation

Pollinators are essential to ecosystems as well as to the production of many agricultural crops. Unfortunately, pollinators face many pressures, including habitat loss and overuse of pesticides. Our cities, towns, and farms have replaced native plant communities with monocultures, buildings, and pavement, reducing sources of food and shelter for pollinators. In highly modified landscapes such as cities and suburbs, valuable habitat for pollinators can be provided by parks, schoolyards, and golf courses as well as field margins, roadsides, and other marginal habitat like powerline strips, especially when planted with native flowers.

Home gardens also can support a rich diversity of pollinators if designed with their needs in mind. The choice of plants should ensure a steady source of floral resources, and the garden should offer nesting sites and a safe environment.

Gardeners sometimes express concern about increasing pollinators in their garden, for fear that they will more likely get stung. Contrary to popular belief, bees are not aggressive—the bee-resembling wasps like yellowjackets (*Vespula* sp.) are more often the culprits. Bees foraging on flowers for food will gently go about their business and avoid interaction with humans. Male bees are incapable of stinging. However, several species of bumble bees will defend their nests from perceived intruders. As long as you stay calm and aware, it is easy and worthwhile to watch the fascinating, important behavior of bees without getting stung.

Jennifer Hopwood is the new Midwest Pollinator Outreach Coordinator for The Xerces Society for Invertebrate Conservation. Hopwood will be partnering with the Natural Resource Conservation Service (NRCS) to conduct a Pollinator Conservation Short Course in Indiana in early 2011. For further details, please contact her at jennifer@xerces.org or 913-579-5241.

Create a Pollinator Friendly Habitat

- **Use local native plants.** Native plants are attractive to a more diverse group of pollinators than non-native species. Though ornamental cultivars are lovely, they are often bred for showiness and may have reduced pollen and nectar loads as a consequence, which make them less valuable to pollinators. To attract a particular species of pollinator, be sure to include its host plant in your garden (for example, milkweeds attract monarchs; sunflowers attract certain specialist bees).
- **Plan for blooms throughout the growing season.** Planting wildflowers that overlap in bloom time helps support pollinators with floral resources throughout the spring, summer, and fall.
- **Include flowers of varying colors.** Bees do not easily see the color red, so they visit primarily blue, white, yellow, and purple flowers, whereas butterflies tend to visit orange, red, yellow, and purple blooms. Hover flies and beetles prefer flowers of white and yellow. Hummingbirds, the only non-insect pollinators in most regions, are drawn to red flowers in particular.
- **Include flowers of varying shapes.** Pollinators have different sizes and shapes of tongues. The more variety of blooms available, the more pollinators will benefit.
- **Plant flowers in clumps.** Groupings of plants are more pollinator-friendly than individual plants scattered throughout the landscape. If space allows, make the clumps at least four feet in diameter.
- **Support ground nesting.** Many ground-nesting bees prefer to locate their nests in well-drained soil, often small patches of exposed ground in sunny locations. Avoid practices that destroy nests or prevent nesting, such as deep tilling and the use of deep bark mulch or heavy landscape cloth. Piles of stones and plantings of bunch grasses can also serve as nest habitat.
- **Support cavity nesting.** Cavity-nesting bees will be attracted to nesting blocks or bundles of bamboo tubes. These are available commercially, or you can build your own. You can also drill channels of varying widths in an old stump, angling them downward for drainage. Watching a bee build her nest is a fascinating experience.
- **Avoid using pesticides.** Pesticides present a significant risk to pollinators. Even products approved for organic gardening can be harmful. If you must, use a fast-acting, short residual compound; do not spray blooming flowers; and apply the pesticide at dusk, when fewer pollinators are active. The same garden practices that support pollinators will support other beneficial insects as well, and reducing the use of pesticides will spare the predatory and parasitoid insects that help keep pests in check.



Andrena species gathering pollen on spring beauty which attracts many spring bees. Photo by Betsy Betros.

Upper Midwest Plants for Native Bees

Aster	Aster
Beebalm	Monarda
Blazing star	Liatris
Cup plant	Silphium
Wild indigo	Baptisia
Fireweed	Chamerion
Goldenrod	Solidago
Giant hyssop	Agastache
Ironweed	Vernonia
Joe Pye weed	Eupatorium
Leadplant	Amorpha
Lobelia	Lobelia
Lupine	Lupinus
Milkweed	Asclepias
New Jersey tea	Ceanothus
Obedient plant	Physostegia
Penstemon	Penstemon
Prairie clover	Dalea
Purple coneflower	Echinacea
Rattlesnake master	Eryngium
Spiderwort	Tradescantia
Steeplebush	Spiraea
Sunflower	Helianthus
Willow	Salix

From "Upper Midwest Plants for Native Bees," an Invertebrate Conservation Fact Sheet published by the Xerces Society. For more information about pollinators and native plants as well as pesticide guidelines, information about bee nest sites, and guidance for implementing pollinator habitat projects, visit the Pollinator Conservation Resource Center at www.xerces.org/pollinator-resource-center.

2010 Plant Sale & Auction Preview

Native Plants: Gardening for Conservation and Water Quality



Saturday, May 8
Trinity / St. Richard's Church & School
3243 N. Meridian St., Indianapolis

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- | | |
|-------------------|---|
| 9:30 a.m. | Presentation—Native Plants: Gardening for Conservation and Water Quality |
| 10:15 a.m. | Doors Open to Plant and Book Sale |
| 11:15 a.m. | Native Plant Auction Begins |
-

New This Year: Pre-Sale Presentation

Alicia Douglass of INPAWS' East Central Chapter will present "Native Plants: Gardening for Conservation and Water Quality" as a pre-sale event. Come learn about native plants, their water requirements compared to typical exotic species. Admission to the presentation is \$10 and includes entry to the plant sale 15 minutes prior to the official opening of the sale event, plus a \$10 coupon toward any purchase made at the auction. Registration for the presentation will begin at 9:00 a.m. at the door.

New to the Sale? Find plants, books, and native plant camaraderie!

Whether you are just starting your native plant garden or seeking more native plants to incorporate into your yard, the plant sale is a great place to find native plant material that is not readily available from most garden centers. Woodland, prairie, wetland plants, trees and shrubs will be available as well as books related to native plants and wildflowers. In addition, the plant sale offers a wonderful opportunity to meet other native plant enthusiasts and share information. Best of all, proceeds from the sale of both plants and books support the INPAWS mission.

Plant Sale Veteran? Attend the auction, volunteer, or donate plants.

The Native Plant Auction is packed full of entertainment (thanks to our engaging auctioneer, Mike Stelts) and knowledgeable commentary from such experts as Sue Nord Peiffer, Kevin Tunesvick, and Hilary Cox. The discussion is informative year after year because the plants available in the auction change every year.

Experienced plant sale shoppers and native plant gardeners are needed to volunteer for setup on Friday evening (4:00 to 8:00 p.m.) and Saturday morning (7:00 to 10:00 a.m.). Knowledge of native plants is helpful, though not necessary. Please visit <http://www.volunteerspot.com/login/entry/43-620019198108> to volunteer online.

Plant donations are needed from established gardens and supportive businesses. Last year's shoppers wanted more ferns, jack-in-the-pulpit, ferns, blue-flag iris, ferns, and groundcovers. Self-seeded or spreading plants should be potted two to four weeks before the sale to give the plant time to adapt to its sale-ready potted environment. Businesses wishing to donate native plants, trees, shrubs, or related gardening items will be recognized as a sponsor of the event.

To volunteer online, visit <http://www.volunteerspot.com/login/entry/43-620019198108>. Or, contact Melissa Moran at 317-295-2021 or moranfam@gmail.com, or Ron Jackson at 317-782-3724 or ronjack6@sbcglobal.net.

Kankakee Sands

A Landscape Approach for Grassland and Savanna Conservation in Indiana

A landscape-scale restoration project is underway in northwestern Indiana to reestablish a semblance of the original habitat mosaic at an appropriate ecological scale. The Indiana Chapter of The Nature Conservancy is attempting to rebuild a biologically diverse landscape of over 30 square miles by reconnecting three important preserves (Conrad Savanna, Beaver Lake Prairie State Nature Preserve, and Willow Slough Fish and Wildlife Area).

TNC has purchased ~8,000 acres of agricultural land to reconnect these three areas. Past conservation efforts focused on each individual preserve. In contrast, the Efroymsen Restoration at Kankakee Sands is designed to heal the landscape between the sites and to create a single, landscape-scale conservation area. Habitat fragmentation and isolation are thought to be the biggest threats to the long-term survival of Indiana prairie and savanna. Small, isolated prairies and barrens lose species with time, especially the rare, vulnerable, and area-sensitive species that most need our attention. If new colonists are not available to re-populate these sites, these areas will eventually become mere shadows of themselves—species-poor relicts of a once diverse ecosystem.

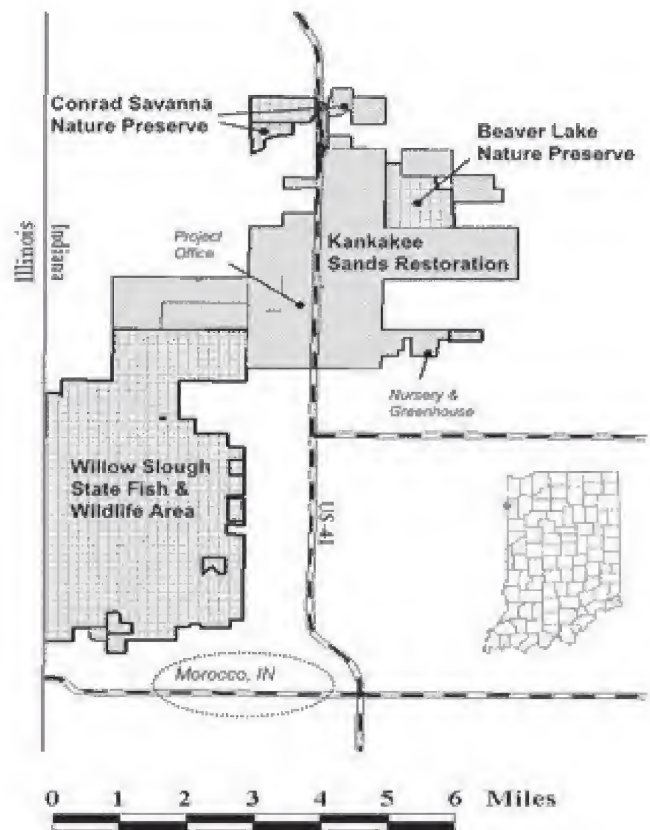
The Efroymsen Restoration is designed create connections that will allow these remnants to ecologically communicate with one another. What was once row crop will be transformed over time into a botanically diverse mosaic of prairie, savanna, and wetland. The development of this diverse landscape matrix will transform Kankakee Sands into a viable system spanning more than 20,000 acres.

Over the years TNC has partnered with state and federal agencies to design and implement this ambitious restoration project. The Indiana Department of Natural Resources, National Resources Conservation Service (NRCS), and the Indiana Grand Kankakee Marsh Restoration Project assisted with the initial land acquisition. The NRCS and the Indiana Department of Environmental Management have contributed to wetland restoration work, while the Indiana Grand Kankakee Marsh Restoration Project also funded some restoration activities. The U.S. Fish and Wildlife Service contributed to the efforts in creating grassland and shorebird bird habitat.

The Restoration Approach

A generalized approach to prairie restoration was not sufficient because our goal is to enhance connectivity and enable gene flow between these isolated nature preserves. We cannot scatter a generic prairie seed mix across the landscape and expect biodiversity and natural processes to be enhanced. From the onset we designed prairie and wetland community types based on soil, hydrology, and ecological processes expected to occur over this variable landscape.

We are modifying the hydrology at the site by creating a mosaic of soil moisture conditions, ranging from pockets of deep emergent wetlands to xeric sand rises. Additionally, the hydrology restoration is intended to optimize conditions and hydroperiods most likely to support these wet/mesic sand prairies because this habitat type has been almost eliminated from the region.



Once the hydrology is restored, appropriate native grassland and wetland communities are established by planting seeds from local genotypes. Our guiding image for botanical restoration is based on the plant communities found in adjacent high-quality natural area remnants. The initial plantings create a patchy grassland and wetland mosaic that will emulate a natural grassland mosaic. We tried to maximize the richness of the initial plantings, and have consistently seeded over 300 species each year. The restorations will be enriched over time, such that the appropriate diversity of plants is ultimately reintroduced to each site.

Continued

Kankakee Sands continued

In support of our restoration goals, we have established an 80-acre seed nursery at the site, designed to produce enough seed to restore approximately 640 acres per year. All nursery stock represents local genotypes, and 125 species are already in place. The nursery features a pivot irrigation system and seed processing, cleaning, and storage facilities. We also wild collect

For example, our hydrologic restorations are designed to create the seasonal shallow flooding during winter and spring which is essential to mesic and wet prairie habitats. Similarly, prescribed fire is used to mimic the natural fires that originally would have swept through the prairie at the site. Together, the dynamic interplay of hydrology and fire over soils will create, over time, the finer-scale patchiness and complexity that will eventually allow the planting to become a natural extension of the natural areas it adjoins and protects.

Current Status

Miles of agricultural drainage ditches have been removed to create wetlands and wet prairie that are among the rarest habitat types in the region. We have restored and planted over 5,000 acres of grasslands and wetlands at the site. The plant and animal response to the restoration has been just as exciting as all the work itself. Some restoration areas currently support over 200 species of native plants and over 400 plant species have been reintroduced as a result of our plantings. These are among the richest plant restorations in North America but at a much larger scale than other restoration projects. Everyone interested in conservation is aware that bird species that live in grasslands and wetlands are declining throughout Indiana and the greater Midwest in part due to habitat loss. Four of the 25 fastest-declining bird

species in North America breed in the prairie and wetlands at Kankakee Sands: Henslow's sparrow, grasshopper sparrow, field sparrow, and northern bobwhite. Three declining species (lesser yellowlegs, king rail, and short-eared owl) rely on the site as a



Newly created wetland area.

seed in support of our plantings, and over 175 species are added to the nursery-produced mix each year. There is also an onsite greenhouse for plug production. Species that are not well represented in seeded areas are installed as plugs. Typically, over 2,000 pounds of native seed representing 300 to 400 species are planted in appropriate hydrological zones each year. Although there are over 100 species of grasses, rushes, and sedges in the plantings, we shy away from planting aggressive species such as big bluestem, Indian grass, and switch grass that dominate most prairie plantings. We believe that by allowing the initial planting to establish with only minimal amounts of dominant grasses, we will see better establishment of the diverse prairie we are seeking to recreate.

One benefit of using high-diversity plantings is the flexibility they provide for creating structural diversity. Using grasses and forbs that grow less than two feet high, we can create short-stature prairie that is diverse, provides great habitat for birds and mammals needing low structure, and does not need mowing or other maintenance. Similar strategies can be used to create and sustain specialty habitats like mudflats, tall grass prairie, sparse sandy zones, and emergent wetland.

The long-term success of the restoration depends upon re-establishing appropriate ecological processes across the site.



Storage of seed used for plantings.



Wild onion bed.

stopover during migration. In addition, another 13 bird species found at Kankakee Sands are listed as threatened or endangered in Indiana. A few of these are the Northern harrier, upland sand-piper, American bittern, and black tern. In Indiana, the restoration became the first nesting location in Indiana for the Wilson's phalarope in 50 years. In total, more than 200 bird species have been recorded on the property since 2001.

Amphibians are thriving in the restoration areas as well. Since we began restoring the hydrology of the site, frogs and toads have begun breeding within the newly created wetlands. The initial response to hydrologic restoration was an almost exponential increase in breeding populations over the site. Tiger salamander larvae were documented recently as well.

Initial work with insects suggests the sites are providing habitat for many rare species that were originally "trapped" on small patches of savanna and prairie. Ongoing inventory of the restoration has turned up over half of the 200 insect species that are dependent on these remnant habitat patches. We hope to see further increases in insect diversity as the fine-scale patchwork of habitats coalesces across the restoration.

One rare mammal, the Great Plains pocket gopher, has responded dramatically to the restoration. This state-imperiled species is limited to the northwest corner of Indiana, and was confined to ditch banks and a few old fields when the restoration began. The soil "push-ups" created by this burrowing mammal now dominate mesic/xeric restoration areas and newly burned fields.

Challenges

Large restoration projects pose some challenges. Certainly controlling invasive plant species tops that list—it continues to be the biggest threat to our goals. Surprisingly, the problems aren't always from exotic species; cottonwoods and *Equisetum* have become as difficult to manage as the Canada thistles and

Phragmites. Controlling invasives has required us to re-think staffing and prioritize follow-up management more as the restored acres accumulate.

Hydrologic performance can also be a bit unpredictable. In a natural hydrologic regime, there will be wet and dry years, and this cycling is good for creating opportunities for an array of prairie plants. However, amphibians will have boom and bust years and deep-water refugia are vital to maintain some species. Waterfowl will experience the same variation in population levels with natural hydrologic cycles. We simply accept that the site will not provide perfect habitat every year.

As the restoration has proceeded, the "if you build it, they will come" model of animal recolonization has served us very well. But a few regionally rare species of plants and vertebrates will not be able to recolonize the site on their own. We are contemplating a program that would relocate selected species, such as ornate box turtles, to the site.

We believe restoration sites such as Kankakee Sands offer the best long-term hope of survival for many such species in today's otherwise fragmented prairie landscape. Well conceived large-scale restoration is one of the key tools we have for conserving our grassland heritage for future generations.

This article is reprinted with the authors' permission from RESTORATION NEWS MIDWEST, Newsletter of the Midwest Great Lakes Chapter of the Society for Ecological Restoration International, September 2008, Volume 1, Issue 1.



Central Chapter Deploys

It's a cold March day, just a few short weeks until spring ephemerals start popping up in the woods or in your home native plant garden. You know it won't be long, but you're eager to make contact with nature again. What to do?

In March 2009, about a dozen INPAWS Central Chapter members decided the best thing to do was to battle invasive plants! Our target: purple wintercreeper (*Euonymus fortunei*). The scene of battle: Meltzer Woods!

We met Cliff Chapman, Conservation Director with Central Indiana Land Trust, at a shopping center parking lot near Shelbyville. He gave us a brief history of the property, and explained why it is considered one of the region's prime natural areas. Then our forces reassembled to carpool to our chosen battleground.

Meltzer Woods is a remnant of old growth forest, one of the few remaining in central



▲ Cliff Chapman explains the importance of the Shumard's red oak to the SWAT Team at Meltzer Woods. The massive oak is believed to be 300-500 years old.



Indiana. Although it is still privately owned, The Land Trust has a agreement with the owners to provide land management services. The woods boast an amazing collection of huge oak, ash, walnut, and other hardwood trees, but these have been overrun with purple wintercreeper. Efforts are underway to eliminate the menacing vine (still a popular ground cover in commercial establishments and residences) using a combination of volunteer labor and herbicide treatments donated by EcoLogic, a private environmental company.

Arriving at the woods, we volunteers were amazed by the size of the trees and quickly launched an attack against the stout tendrils of wintercreeper that enveloped the tree trunks. Our intent was to cut the climbing vines so that an application of ground herbicide spray could eradicate the remaining plants, which literally covered the ground. Because of the extent of the problem, eradicating the wintercreeper is expected to take several years.

◀ John Montgomery and Tina Meeks bag garlic mustard at Eagle Crest. Photos by the author.

Invasives SWAT Team

Tom Hohman
Past President
Central Chapter



▲ Andy Pike does battle with purple wintercreeper vine at Woolen's Gardens.

This was the first-ever sortie of the new INPAWS Central Chapter Invasives SWAT Team. These INPAWS members wanted to get some exercise, get their hands dirty, and do their part to fight the non-native plants that are threatening to take over some natural areas.

Encouraged by the good feelings engendered by our initial outing, the crew followed up in the spring with a beautiful sunny day at Woolen's Gardens, a nature preserve with limited access for the public. Like Meltzer Woods, Woolen's Gardens contains some beautiful natural areas but has a continuing problem with bush

honeysuckle, oriental bittersweet, privet, and garlic mustard. Although most of the volunteers were already familiar with honeysuckle and garlic mustard, oriental bittersweet and privet were new to many. All of us were incredulous at the size of several oriental bittersweet vines, with trunks easily the size of a man's arm.

In summer, the SWAT Team spent rain-shortened days at Eagle Crest Nature Preserve (Indy Parks) and Cool Creek Park (Hamilton County Parks) and later a beautiful fall day at the Eugene Glick Nature Preserve, a Central Indiana Land Trust property in Indianapolis. Although the weather varied from cold to hot, sunny to rainy, one constant at all locations was the good time had by all.

Bouyed by a successful first year, the Central Chapter Invasives SWAT Team will continue in 2010. Plans are to revisit some of the original locations, partly to see the year-to-year improvements, and start work on some additional properties. The SWAT Team invites you to join in the fun and experience the satisfaction of doing your small part to make a big difference.

To sign up, contact Linda Freund at 765-386-6331 or lcfreund@ccrtc.com.

▼ Beaver dam at Glick Nature Preserve shows the impact of an urban environment, with cans and bottles mixed with the branches in the dam.



Burnett Woods Made Whole

With the help of a \$4,000 grant from INPAWS, Central Indiana Land Trust has closed on the purchase of a 10-acre inholding critical to Burnett Woods Nature Preserve. Protecting this "donut hole" and planting it to trees will enhance the preserve and may help attract wildlife species which require large tracts of contiguous forest.

A larger contiguous forest can provide essential habitat not only for birds that call central Indiana home, but also for those who stop here on their long migrations. Box turtles will have more room to roam, and because this is a flatwoods, certain woodland frogs will have more places in which to breed. This tract of land had been zoned R-5 by the town of Avon, which would have allowed for the highest density housing possible.

The \$310,000 purchase was supported by many individual donors as well as grants from INPAWS, The Conservation Fund's Rocky Express Migratory Bird Account, Indiana Heritage Trust, Duke Energy, and Hendricks County Community Foundation. Restoration work will begin this spring.

Those curious to see Burnett Woods can join a garlic mustard pull on Saturday, May 1, at 9:00 a.m. Details are at www.conservingindiana.org/events.html.

New INPAWS Members

CENTRAL

Simon & Jennifer Davies
Marc Woernle
Michael Courson

SOUTH CENTRAL

Joe Collins

EAST CENTRAL

Thomas Enright

Letha's Youth Outdoors Fund Donations

Our thanks to all those who have given to this fund in memory of Letha Queisser. The fund helps bring young people into contact with nature. Donations may be sent to the INPAWS Treasurer.

Lynn & Bill Boatman
Michael B. & Patricia S. Cacraft
Robert Emert, Jr.
John L. & Dawn E. Mercer
David K. & Lori A. Queisser
David R. Queisser
Pat H. Sieloff
L. Louise Tetrick

INPAWS Signs Bumble Bee Petition

On January 12, The Xerces Society, the Natural Resources Defense Council, Defenders of Wildlife, and Dr. Robbin Thorp (a bumble bee scientist) submitted a petition to the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) asking the agency to regulate the interstate movement and health status of commercial bumble bees in the U.S.

The well-documented petition argued that at least four species of wild bumble bees are in decline, and a major threat to their survival is disease from commercially reared bumble bees. It asked APHIS to create rules prohibiting the movement of bumble bees outside of their native ranges and to allow bumble bees to be moved within their native ranges only if they are certified disease-free.

The request to sign this petition opened an e-mail dialog among INPAWS officers about whether the president has the authority to respond for INPAWS when an apparently reasonable request is made. The consensus of the participants was that the president can poll the expertise of the Board and Council and sign on behalf of INPAWS if the request (1) comes from a reputable organization, and (2) is relevant to the INPAWS mission. In this case, Tom Hohman responded with enthusiastic support.

Here are some highlights of the petition's supporting arguments:

"In natural ecosystems, bumble bees and other native bees are essential for the reproduction of native plants, including a number of rare and endangered plant species....The loss of bee pollinators results in a lack of seed or fruit set, fewer progeny, and potentially the extinction of a plant species. In Britain and the Netherlands, where multiple bee species have gone



Drawing by Beki Borman. www.bekiborman.com

F I E L D N O T E S



Business was brisk at INPAWS's display at the new Home & Garden show at Lucas Oil Stadium in Indianapolis, March 5-7, 2010. Staffing the booth are Laura Snipes and Tom Hohman. Volunteers are needed for booth duty at multiple outreach sites this spring. Contact Dan or Sophia Anderson at 317-849-3105 to sign up for a 3-hour stint at an event near you.

extinct, researchers have observed parallel declines in plants reliant on those bee pollinators....As pollinator numbers decline, pollen transfer between plants of the same species will also likely decline. This, in turn, may increase the percentage of seeds set through self-pollination which can reduce the genetic diversity of the offspring and result in an accumulation of deleterious traits due to inbreeding. Another researcher identified a cycle in which a decrease in available floral resources can decrease the reproductive success of the associated pollinators, which would result in lower fecundity of the plant species and fewer available floral

resources for the next generation of pollinators. A number of other studies have demonstrated that the loss, absence or decline of bee pollinators is harmful to rare plants."

The full petition can be read at www.xerces.org/petition/xerces-bumblebee-petition-to-aphis.pdf.

Coming Up

Saturday, April 17 INPAWS Hike

Moore's Creek parcel of the Indiana University Research and Teaching Preserve, Monroe County; led by Dr. Keith Clay

Sunday, May 2 INPAWS Hike

Tippecanoe River oak-hickory forest, Fulton County; led by Laura Snipes

Saturday, May 8 INPAWS Plant Sale / Auction

Trinity / St. Richards Church & School, Indianapolis
9:30 a.m. to 12:30 p.m.

Saturday, May 15 INPAWS Hike

Taylor University Arboretum, Grant County; led by Dr. Paul Rothrock

Sunday, May 23 Deadline for Next INPAWS Journal

Submission instructions on page 2

Saturday, June 19 Native and Invasive Plants Conference

Doug Tallamy will speak, University of Evansville, see <http://vandswcd.org/>

Saturday, November 6 INPAWS Annual Conference

University of Indianapolis

Watch for announcements of INPAWS events and field trips in the mail, via e-mail, and at www.inpaws.org.



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GROWING YOUR OWN

Plant Information Added to INPAWS Website

A new resource on the INPAWS website is geared toward gardeners looking for new species for their spring plantings.

The site contains plant photos and links to information about each of the species included in the INPAWS brochure, *Landscaping with Plants Native to Indiana*. Linked sites include the USDA Plants Database, the Missouri Botanical Garden Kemper Center for Home Gardening, the Connecticut Botanical Society, and Kansas Wildflowers and Grasses (by Mike Haddock, Kansas State University Libraries).

The site is divided into five easily searchable sections. Visitors may search for photos and species information by consulting:

Thumbnail Photos of Native Plants

Scientific Name Index

Common Name Index

Natural Plant Communities:

Woods Edge (part shade), Woodland (shade), Prairie Grassland (sun), and Water's Edge (sun)

Landscape Uses of Native Plants:

Perennials, Trees & Shrubs, Butterfly Food, Bird Habitat, Rain Garden, Autumn Color, Winter Interest, Ground Covers, Erosion Control

INPAWS recommends the listed items as the most garden-worthy plants native to Indiana. The lists are not exhaustive but aim to introduce you to reliable, well-behaved natives that can be used decoratively, to attract wildlife, or to restore the balance of nature to a landscape. To find native plant sources near you, consult our "Nurseries and Landscape Designers Providing Plants Native to Indiana" page on the website.

To begin your search for beautiful Indiana native plants, go to www.inpaws.org and click on the link "Indiana Species Photo and Information Pages." Happy gardening!

Marcia Moore, INPAWS Webmaster



*Patricia Happel Cornwell*

Sell the Real Estate

Keep the Memories—and the Wildflowers!

I grew up in a Civil War era farmhouse in Floyd County. My father lived there 49 years until his death, my mother 51 years until she went to a nursing home. When they purchased the farm in 1951, it was 23 acres, but over the years it grew. By the time my mother was unable to live alone, it fell to me to manage 95 acres of pastures and woods, an 1854 house and summer kitchen, two barns, a three-car garage, a watch dog, and too many barn cats to count.

My husband and I had moved to Harrison County, so for six years—from my mother's move to the nursing home to three years after her death—I made the 40-mile trip to the farm hundreds of times. Besides overseeing my mother's care, maintaining my own home, and freelance writing, I was now arranging for the farm's fields to be mowed in summer, keeping the old house's water pipes from freezing in winter, and calling the service people when the mice annually chewed through its furnace wiring.

Inside

Indiana State Parks.....	3
Indiana Land Trusts.....	5
Preserving Family Woodlands.....	6
Unkempt Lawn	7
Garden Tour Preview.....	8
Events/Field Notes	11



My parents wanted the farm to stay in the family—intact—so they willed the entire farm to me. However, John and I were already happy on our 19 acres in Harrison County, and my brother and his wife were happy on their 60-odd acres in Orange County. A nephew wanted to buy a few acres, but I was determined not to divide the farm. I could have sold it quickly to developers, but the thought of a subdivision on the rolling hills where I grew up made me sick. I didn't know what to do with the farm, but it was simply too big a burden to carry much longer.

One day our stock broker mentioned he'd had lunch with a friend who lived near my parents' farm. This friend was doing the legwork for a local philanthropist who had established a foundation to preserve natural areas

Patricia Cornwell and granddaughter Emma Heckel pose in May 2010 in a field of coreopsis at Cornwell's childhood home site. (That's a neighbor's home in the background.)



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INPAWS JOURNAL is published quarterly for members of the Indiana Native Plant and Wildflower Society. Material may be reprinted with the permission of the editor.

All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

Please submit text and photos via e-mail to wwford@comcast.net or via land mail to INPAWS JOURNAL, 6911 Cabernet Way, Indianapolis IN 46278.

Submission deadlines for specific issues are as follows:

Spring
February 23 for April 1 mailing

Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the value, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

News and Views

Information to be shared with INPAWS members may be directed to membership@inpaws.org.

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A Bonus

With all the bad news we hear daily about the environment, a person would have every right to be pessimistic about the future. While I certainly share that pessimism at times, more often I find myself being optimistic. Many challenges lie ahead, but I believe that more and more people are starting to understand how the things that we do daily affect the environment. They are starting to understand that they are not powerless, that they can be part of the solution.

By the time you read this, Douglas Tallamy will have visited Indiana again as a speaker at the Native and Invasive Plant conference in Evansville. Dr. Tallamy, an entomologist who authored *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*, has been to Indiana at least three times in the last three years. He first appeared as the keynote speaker for the 2008 INPAWS conference with his message of the importance of native plants for wildlife.

What makes Dr. Tallamy's book and presentations so encouraging is his belief that by growing native plants in our own gardens, we can actually help wildlife beyond our property lines. The most obvious example of this, of which many of us are already aware, is the monarch butterfly, which depends on plants in the milkweed family to feed their larvae.

But Dr. Tallamy goes beyond this to point out that the insects that our native plants support will provide food for the birds raising their young and the bats flying overhead. Although our backyard gardens can never replace the natural areas constantly being lost to development, he believes that we can lessen this loss simply by letting nature into our yards.

I started growing native plants in my yard for enjoyment, and to help me learn to identify them. What a tremendous bonus now to know that I am actually helping nature by doing so.

—Tom Hohman

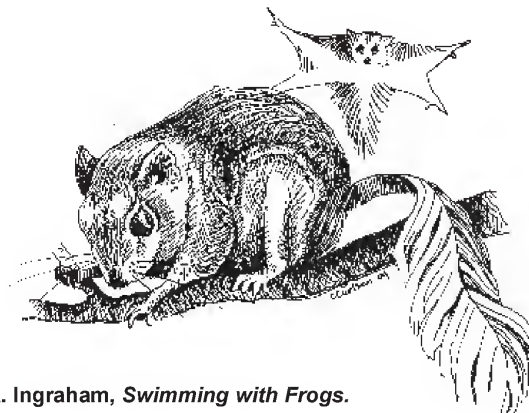


Illustration by Chris Carlson in R.A. Ingham, *Swimming with Frogs*.

Indiana State Parks

Indiana State Parks traces its history back to 1916, when Colonel Richard Lieber, an Indianapolis businessman and German immigrant, recommended that a state park system be created as part of Indiana's centennial celebration. Lieber became a national leader in the state parks movement and assisted other states in forming their own systems as well.

Lieber's strong philosophy was that users of the parks should be charged a user fee and that money from all fees should be dedicated and used to defray the operational costs. This philosophy continues to this day, making Indiana one of the leading state park systems in terms of self-sufficiency. Indiana has fewer state parks than many other states, but they are of a very high quality.

Indiana was one of the pioneers in providing naturalists to give interpretive programs that help people to enjoy and appreciate these special places. In 1923, Lucy Pitchler, described as the "little lady in tennis shoes," began taking people out on the trails of McCormick's Creek State Park, enthraling them with her knowledge and appreciation for the natural world.

Many of the roads, shelters, restrooms, gatehouses, and bridges still in use today were built by the young men of the Civilian Conservation Corps (CCC) during the Great Depression. The craftsmanship, the simple, rustic design, and the durability of these facilities set the tone for all that has followed.

A goal of the state parks is to give Hoosiers the ability to experience what the Indiana landscape was like prior to settlement—mature forests, wetlands, and prairies—and to interpret the historical and archeological context of the state.

A more modern goal has been to have a state park within one-hour's drive of every Hoosier. With the opening of Prophetstown State Park this summer, that goal has finally been met.

Find a detailed history of Indiana State Parks at <http://www.in.gov/dnr/parklake/2444.htm>.

Sell the Real Estate

continued from page 1

from development. He gave me the man's phone number.

My husband and I met the friend and the philanthropist, whom I'll call Sam, at the farm. We talked awhile, then drove 10 miles up the road to walk over another property they had already restored to native grasses, with cooperation and guidance from the U.S. Dept. of Fish and Wildlife, U.S. Dept. of Agriculture, and Indiana Dept. of Natural Resources. I could see they knew what they were doing.

We returned and walked my parents' farm. It was September 2006. In a field near the creek, huge patches of great blue lobelia bloomed, five feet tall. One pasture was chock-full of common milkweed going to seed, and as we walked through it a pair of mallard ducks glided on the lake.

The next spring, we met the men there and walked the farm again. This time, fire pinks were blooming beneath the pines around the cabin my father built of old pioneer logs. Sam talked about chemically burning the Kentucky 31 fescue off the pastures and replacing it with native grasses. I expressed concern for the more than 50 species of wildflowers that grew on the place. He assured me that wildflower seeds that had been suppressed by fescue for years would germinate after the chemical treatment.

Sam said he couldn't meet my price, although the farm was worth it to a developer. He made me an offer far less than I had hoped for.

I said yes.

We signed a purchase agreement and I arranged for the farm to be re-surveyed. I was still trying to get my mother's estate settled, and the survey would give me time to empty the house and buildings.

I spent week after week poring through a half-century's accumulated possessions in my parents' home. The upstairs had become a museum of cast-off furniture, turkey roasters, defunct radios, old newspapers and calendars. Many of these things had been my grandparents'. The outbuildings were also full of tools and implements.



Cornwell grew up in this 1854 farmhouse in southern Indiana. The house was razed by the foundation that bought the 95-acre property to preserve it as a wildlife refuge.

I sold or gave away furniture and appliances. I shared memorabilia with my brother and cousins. I dug and shared our grandmother's irises, gave her piano to one cousin, her couch to another. I gave carloads to Goodwill Industries. Once in awhile, I took a break and sat in my mother's kitchen drinking tea from her faded mug that said "MOM." Then I'd get back to my melancholy chore. Still, it took the help of my husband and some faithful friends over several back-breaking weekends to empty all the buildings.

When I closed the sale April 30, 2008, I was too tired to shed a tear.

The satisfaction of saving my parents' farm as a wildlife refuge "in perpetuity," as the sale contract assured, was worth much more than the hundreds of thousands of dollars I forfeited by not selling to a development company. The contract even specified that the property be named in honor of my parents.

I soon learned that another family whose farm adjoined my parents' decided to sell their 150 acres to the foundation as well, creating a larger uninterrupted habitat in the midst of encroaching subdivisions.

This April, I went back. The house had vanished without a trace. Violets, clover, and a few forgotten daffodils grew in its footprint.

A retired wildlife biologist had been recruited to manage the project. In 2009, the fields were sprayed to eradicate fescue. The front field was sown with native wildflowers, including partridge pea, bundleflower, and purple coneflower, not yet in bloom. Some fields were planted with little bluestem, tall dropseed, side oats gamma, and Virginia wild rye, and others left to regenerate on their own. On the combined properties, 13,000 native trees and shrubs were planted.

Last summer, the foundation hosted a field day for southern Indiana DNR wildlife biologists to showcase the property as a "teaching tool" to emulate in their districts.

Sam told me, "It is a work in progress and will be for years to come. You don't reverse man's alterations and destruction overnight."

He sees progress, however, in the return of an "indicator species." Nesting bobwhite quail are a sign that "the habitat is now viable for all native wildlife."

In May, I returned to the farm with John and our granddaughter Emma. The front field was solid gold with coreopsis, and as we walked down the lane, a pair of quail noisily burst from cover.

As we hiked deeper into the fields, the native grasses were shoulder-high, heavy with seed. Dragonflies, butterflies, and red-winged blackbirds flew around us. Blooms were everywhere: wild blackberry, common and green milkweeds, greater *Houstonia*, golden ragwort, yarrow, ox-eye daisies, Venus's looking-glass, remnants of Japanese honeysuckle, and the first black-eyed Susans.

When we reached the thicket where the log cabin had stood, we discovered it was gone. When I queried Sam later, he said the cabin was deteriorating, so he had a log home builder remove it. The cabin is being reconstructed by the builder's son, "just back from Iraq and newly married." I am relieved to know that the cabin, a veteran itself, is being "recycled" to hold yet another family's dreams.

In the field between the cabin site and the creek, where previously great blue lobelia had flourished, there was not much color, but the first purple cone-flower stood out like a sore thumb, as did a gorgeous five-foot thistle of a variety I had never seen. I hope that this fall I will find the lobelia resurrected there.

It was sad to let the farm go, but selling it to a preservation foundation got me out from "between a rock and a hard place." I believe I have honored my parents, and it is a great comfort to know that the wildflowers, trees, and creatures that gave my family so much joy will thrive forever in their natural home under intelligent and caring stewardship. In my heart, the farm will always be my home, too.

A friend once advised, "Sell the real estate, keep the memories." As John, Emma, and I left the farm, hot and sweaty but satisfied, my digital camera announced it was "Out Of Memory."

But I am not, and never will be.



12-year-old Emma (left) waits as her grandmother photographs an unusual thistle. Photos by the author.

Land Trusts Operating in Indiana

ACRES Land Trust, Huntertown

Blue Heron Ministries, Angola

Central Indiana Land Trust, Inc., Indianapolis

Clear Lake Township Land Conservancy, Fremont

Four rivers RC & D, Petersburg

George Rogers Clark Land Trust, Charlestown

Indiana Karst Conservancy, Indianapolis

LaPorte County Conservation Trust, LaPorte

Little River Wetlands Project, Ft. Wayne

Mud Creek Conservancy, Indianapolis

The Nature Conservancy, Indianapolis

NICHES Land Trust, West Lafayette

Oak Heritage Conservancy, Hanover

Ouabache Land Conservancy, Greencastle

Oxbow, Inc., Cincinnati, OH

Save the Dunes Conservation Fund, Michigan City

Shirley Heinze Land Trust, Michigan City

Steuben County Lakes Council Land Trust, Angola

Sycamore Land Trust, Bloomington

Three Valleys Conservation Trust, Inc., Oxford, OH

Trillium Land Conservancy, Elkhart

Wawasee Area Conservation Foundation, Syracuse

Whitewater Valley Land Trust, Centerville

Wood-Land-Lakes RC&D, Angola

Woodland Savanna Land Conservancy, Valparaiso

Compiled from *The Nature Conservancy, Indiana Chapter, website.*

Preserving Family Woodlands

Teena Ligman, USDA Forest Service

Most woodland owners care deeply for their land and take pride in being good stewards, but they cannot blithely assume that their heirs share their values. Over the next two decades, Indiana's forests will be turned over to a primarily middle-aged generation that may not feel the same connection to the land. Communication is the biggest obstacle to securing family legacies. One man explained he never discussed his woodlands as part of estate planning because, "When I think of my net worth, I don't include the forest because I think of that as already belonging to future generations."

Since the life of a forest spans that of multiple owners, we owe it to our family and woodlands to develop a stewardship plan that includes transitioning to the next owner without burdens such as heavy taxes or family dissension. Each of us has choices to make about our woodland:

- To whom will we leave our woodland?
- How do we want it managed?
- Should it be subdivided and developed?

Consider the Options

As you think about preserving your woodlands, here are a few of your options.

Do nothing. This option leaves your woodland most at risk.

Will. Traditional wills divide assets such as stocks and bonds among heirs, but land is a nontraditional part of an estate. A subdivided forest loses its value as a functioning ecosystem if the smaller parcel land use changes.

Sell or give the forest to heirs before death. To reduce estate taxes, some forest landowners prefer to sell or gift their woodlands to heirs while they are alive. This strategy provides an opportunity to develop a shared understanding of how the land will be used.

Family partnerships. Some families put their woodland in a partnership or qualifying conservation trust. This allows the forest to stay as a functioning ecosystem.

Limited Liability Company (LLC). Family members can form a LLC to protect the family forest. The LLC can be member-managed or manager-managed.

Land trusts. Land trusts may purchase conservation easements (the rights to prohibit development) on family forests, purchase forest outright, or receive donated forest lands from an estate.

Public landholders. Forest owners abutting or near public land may consider donating or selling their land to the public landholder. This choice has the environmental benefit of keeping large, contiguous forests intact.

Mistakes to Avoid

There are five common mistakes to avoid in transferring woodland property:

If it's working, don't break it apart. You wouldn't break up a piece of equipment between your children, and splitting woodlands makes no less sense! The forest functions as an ecosystem; it needs to be intact. Yet, owners look at their woods as they would a savings account and divide the asset among heirs.

"They know what I would want and they'll do the right thing." If discussions don't happen, disagreements can happen among heirs. The obvious solution is to communicate your wishes, but ultimately for you the owner to make decisions and give heirs the chance to ask questions, understand, and respect choices.

"All our children want the same thing." In interviews with adult children of forests owners, children differ in opinion on why they value family woodlands. It's best to have a discussion when the landowner can offer guidance and make decisions.

If you want to keep it in the family, play out all scenarios. This is the cold reality of protecting family land legacies. Heirs are often looked at as sons or daughters and their spouses. Divorce or "right of survivorship" situations can sometimes take land out of family hands. Legal strategies ensure that land or land shares revert to blood relatives if that is important to you.

"I'm worth how much?" Landowners' failure to realize the value of their forestland is a scenario that happens too often. Acreage with high development potential can mean sizeable estate taxes for heirs. Taxes in the hundreds of thousands of dollars are not uncommon. Selling the land may be the only solution for covering the debt. Get land appraised for its full development value, then run the estate tax calculations.

A document to guide landowners through the process of transferring their woodland to the next generation is available at http://na.fs.fed.us/pubs/stewardship/preserving_family_woods_lr.pdf. Or you may contact Teena Ligman at 812-275-5987 or tligman@fs.fed.us to receive a copy by mail. Teena Ligman is a Public Affairs Specialist for the USDA Forest Service, Wayne and Hoosier National Forests.

An Invitation to Visit Lee Casebere's Unkempt Lawn in North Suburban Indianapolis

In Aldo Leopold's book, *Sand County Almanac*, there's a section entitled "The Sand Counties" in the chapter "Wisconsin." In it, he speaks of the sand counties of central Wisconsin as being "poor" with reference to their inability to provide a decent living to farmers who scraped by there during the early decades of the 1900s. Yet when tempted with ways out by the government on the heels of the Great Depression, many farmers were reluctant to leave. "[I] began to wonder why," Leopold writes, "and finally to settle the question, I bought myself a sand farm."

Leopold's experiences on that poor sand farm fine-tuned many of his ideas on conservation and the land ethic he so fervently espoused. Much of the prose in his book evolved from those experiences. Here is Leopold, from *Sand County Almanac*:

Sometimes in June, when I see unearned dividends of dew hung on every lupine, I have doubts about the real poverty of the sands. On solvent farms, lupines don't even grow, much less collect a daily rainbow of jewels. If they did, the weed-control officer, who seldom sees a dewy dawn, would doubtless insist that they be cut. Do economists know about lupines?

He went on to mention other plants that "seem to ask of this world not riches but room." Among them are sandwort, *Linaria*, and *Draba*. These are tiny plants that abhor big companions and close competition, and springtime on dry sand suits them just fine. More Leopold:

Finally, there is Draba, beside whom even Linaria is tall and ample. I have never met an economist who knows Draba, but if I were one I should do all my economic pondering lying prone on the sand, with Draba at nose-length.

You may be beginning to wonder what all this has to do with an unkempt lawn in north suburban Indianapolis—especially the part about economists and pondering small plants at nose-length! Well, my suburban lawn hasn't experienced the consequences

of fertilizer and herbicides in over a decade. It can hardly be described as a lawn, really. It's a weedy assortment of dandelions, plantain, violets, creeping Charlie, black medic, white clover, and other villains of lawndom with a few sprigs of grass thrown in just on the hope that it could be a real lawn with some effort. If one can be proud to contribute weed seed to the neighborhood, then I'm one proud homeowner!

Although my lawn doesn't seem to have any connection to econo-

mists, perhaps there is a connection to the economy. I haven't been doing my fair share to boost the economy by investing in fertilizer and herbicide in quest of a proper lawn. But in so doing, I am helping in my own small way to reduce the dead zone in the Gulf of Mexico. At least I can feel good about that!

And finally, to the point of this rambling narrative: As a side benefit of my neglect, almost annually for many years, my front lawn has been home to the little orchid slender ladies'-tresses, *Spiranthes lacera*. If I see them in time to keep the mower from reducing them to mulch, I let them grow and flower and set seed. I most likely have the only home in the neighborhood with this little bonus of neglect. If not, then I'm probably the only one who knows what they are and is happy about it.

The whole plant is only inches tall, with dainty spirals of tubular white flowers sporting a green throat—very pretty! Because of their small size, they require close inspection and are best seen at nose-length while lying on your belly. I'd be willing to bet that many of you have never seen this little orchid. Or perhaps you have never seen it well, or up close, or in a place where lying on your belly is much of an option or even a desired option. Well then, I invite you to my front yard to lie on your belly and ponder slender ladies'-tresses at nose-length.

The address is 9202 North Delaware Street, Indianapolis. It is best accessed from 91st Street or 96th Street, a short distance east of Meridian Street. Please park in the driveway to be off the street. Look for the orange flags in the front lawn marking areas where the plants can be found. Bring your camera and a close-up lens, or perhaps a magnifying glass. You can move flags to get a better camera angle or to get flags out of your pictures, but please put them back where you found them. Be careful not to squish the flowers as you position yourself low to the ground. If Pat and I are not home, you may still look and photograph and ponder. Enjoy!

P.S. In order to more accurately pinpoint the time when these little orchids are blooming, I will alert INPAWS when they start coming into flower. This is usually sometime in August. INPAWS will send out an e-mail announcing that the time is right for a field trip, or rather, an unkempt lawn trip.

Also, while you are there, you might want to look around other parts of the yard. At the end of the driveway and around the patio, the landscaping is an odd collection of native and non-native plants. These are mostly in a shaded environment utilizing many hostas. My property goes back quite deep, and includes a small woods directly behind the house. Under the power lines and pretty far back, there are a couple of small prairie-like areas with an assortment of native sun-loving plants. You are welcome to walk around and view these other plantings.

—Lee Casebere



Landscaping with Native

Want to know what that 4-inch prairie dropseed will look like in two years? Or a tiny start of cardinal flower? How about the one-foot black chokeberry or bottlebrush buckeye?

Here's your chance for a rare peek at some mature, private Indiana gardens that use native plants to define the landscape. From small to large, country to city, these gardens offer a wide variety of ideas on how to use native plants in our home gardens—ideas that will work for dense shade, full sun, and wet and dry soils.

The tour is free and open to the public. You may visit the gardens in whatever order you wish.

Saturday, July 10
10:00 a.m. to 4:00 p.m.

Registration is limited. To receive addresses and directions to the gardens, register at www.inpaws.org or phone Kelly Spiegel at 1-317-418-5489.



Artist's Tapestry

This densely packed, multi-layered garden is a tiny gem that could be explored for hours. Botanical illustrator and artist Jan Glimn-Lacy has labored over and stewarded her little piece of land for 25 years, removing turfgrass each year until it can now be mowed in about 15 minutes. The result is a haven for wildlife (including her feisty poodle) and people. One of her publications, *What Flowers When*, is the result of meticulously documenting her garden over a period of many years. Large trees, including several black gums, serviceberries, and sassafras provide the over-arching canopy while numerous shrubs and herbaceous perennials (*Hamamelis virginiana*, *Itea virginica*, *Lindera benzoin*, *Ilex verticillata*, *Viburnum trilobum*, *Aronia arbutifolia*, Jack-in-the-pulpit, lady fern, blue star, goatsbeard, male fern, leatherwood fern, Joe-Pye weed, appendaged waterleaf, and *Sagittaria latifolia* are just a few) provide the middle and ground layer of plantings. Paver paths guide visitors throughout the yard, which also includes a small water planting and whimsical garden ornaments.

Chapman Oasis

Jan Chapman's garden has been a work-in-progress for 14 years! Married to an Englishman, Jan wanted the ambiance of an English garden with the understanding that plants indigenous to the Midwest had a better chance of thriving the heat/cold/drought/flood cycles of central Indiana. After fixing problems with a previously installed perennial bed, she turned to other areas of the approximately one-acre yard. Over time, paths, seating, and ornamental features were added so that Jan could enjoy her developing oasis from various aspects: enjoying a glass of wine under the walnut tree surrounded by many native and non-native shrubs, small trees, perennials, and ephemerals; grabbing a coffee break sitting on the bench overlooking the perennial bed with a view down to the newly-installed "glade"; gathering flowers from the cutting garden to place on the unique "mushroom" table in said glade. Some of the plants you can see (not counting major trees) are witchhazels, bottlebrush buckeye, Virginia sweetspire, viburnums (many species), aromatic sumac, and spicebush. Perennials and ephemerals include coneflowers, blackeyed Susans, queen-of-the-prairie, beebalm, asters of many kinds, trillium, hepatica, trout lily, ferns, American ginger, Jacob's ladder, hairy alumroot (coralbell), and delphiniums—both spring and tall, the latter native to Ohio, Kentucky, and other states to our south and east but wonderfully hardy in central Indiana for those who lust after the ones they see in English gardening books which just don't do well here! The whole can be viewed from the wrap-around deck, but we encourage you to make use of those paths and benches to enjoy the views, vignettes, and fragrances from different angles.

Illustration by Chris Carlson in R.A. Ingraham, *Swimming with Frogs*.

Plants 2010 Garden Tour

Landscape Laboratory

Wendy Ford's suburban yard is a garden designer's dream laboratory—plenty of room to experiment with plant vignettes (including a mini-prairie), beautiful borrowed views, the structure of a design, and the luxury of time over which to thoroughly understand plant growth characteristics in a single setting. Wendy's plant knowledge garnered over decades of hands-on experience has enabled her to blend an extensive collection of both native and non-native plants into a beautiful garden while leaving her space to trial plants she hasn't grown. Some of the natives you'll encounter are black gum, beech, sumacs, Eastern red-cedar, American smoketree, ninebark, common witchhazel, red chokeberry, arrowwood, coralberry, buttonbush, spicebush, Virginia sweetspire, elderberry, prairie dropseed, goatsbeard, several sedges, alumroot, blue star, switchgrass, Indian grass, various milkweeds, and ferns. She has also artfully included garden ornaments, walks, and a new seating area created where three aging Bradford pears were removed last season.

Hilltop Haven

This 13-acre homestead will transport you to another time, and definitely another place! Although it's minutes from I-65 and the IMA, as soon as you begin to ascend the graceful curving drive past the pond, your blood pressure will begin to descend. This beautiful farm property has been lovingly cared for over the past 40 years by Charles and Marilyn Spurgeon, who have raised children, horses, cows, goats, ducks, dogs, and LOTS of plants here. Charles has acres of tree research plots focusing on nut-bearing trees: pecan, hickories, walnuts and "Hicans" (pecan/hickory crosses). Marilyn has an extensive vegetable garden from which she cans and freezes. There is also some informal research on deer grazing preferences along the back fence line; all the Indiana *Silphiums* are being trialed. The wooded area has all the typical Indiana woodland trees: oaks, hickories, beech, black cherry, hornbeam, redbud, dogwood, ash, maples, etc., and associated spring ephemerals; the Spurgeons have diligently removed invasives here for many years. Additional plants to see are the giant tuliptree, black gums, pawpaw, persimmon, yellowwood, bur oak, spicebush, vernal witchhazel, fire pink, blue cohosh, Indian pink, wild yam, hearts a'busting, queen-of-the-prairie, royal catchfly, Joe-Pye weed, *Silene stellata*, and much more. Plan to spend a couple of hours.

Big Sue's Wonderland

If you drive too fast past Sue Arnold's home, you may think it's just another ordinary suburban house and garden. Slow down, though, and you'll start to notice the whimsical-comical sculpture and the unusual combinations of plant materials. As you start along the side yard and into the back you are blown away by the beautiful setting—the house nestles up to a lake—complete with a bog garden and the knobby knees of a baldcypress growing

at lake's edge. The bog bed has several "bog plants" featuring native *Carex*, rushes (including *Equisetum*), iris, and *Caltha palustris*. The butterfly garden has many species of *Liatris* and *Rudbeckias*, *Monarda*, *Vernonia*, *Eupatorium*, *Wisteria frutescens* and *Asclepias*. The border gardens have native asters, *Chelone*, *Coreopsis*, coneflowers, *Thalictrum*, *Tiarella*, and *Solidagos*. Sue might even go so far as to call her garden a "deer sanctuary" and will cheerfully tell you which plants and shrubs they prefer. She just replaced a hedge of *Euonymus* with *Aronia arbutifolia* which "the deer have found to be absolutely delightful! *^%\$#."

"Type A" Natives

After being convinced (actually, more like badgered over a period of several years) by a landscape architect friend that a beautiful, well-designed and highly organized (a top priority for this engineer) landscape could be created using a completely native plant palette, the Hatchers began installation of a garden from scratch—in a sterile, top-soil stripped new suburb. Frank Hatcher added massive quantities of mushroom compost to improve the remaining subsoil, and began installing a wide variety of trees, shrubs, and herbaceous perennials. Seven years later, the back yard is a private oasis, screened from neighbors by arrowwood, blackhaw, gray dogwood, and red and black chokeberries. Persimmon and pawpaw trees are now bearing fruit, as are the serviceberries and pagoda dogwood. Tuliptree, red maple, white ash, sweetgum, and baldcypress are creating shade and shelter, and birds and insects have found this little oasis in a vast development where many homeowners settle for the single Bradford pear and a few spireas in the yard (still existing in the Hatcher front yard—a phase 2 project). A strong series of owner-installed curvilinear brick edgings ties the beds into a single composition. Herbaceous perennials include cupplant, prairie dock, foxglove penstemon, northern sea oats, nodding wild onion, blue false indigo, prairie dropseed, yellow coneflower, purple coneflower, and queen-of-the-prairie.

Shady Acres

An eclectic collection of shrubs, wildflowers, and other native and exotic plants on two shady acres of wetlands and woods.

Monarch Way Station

Follow the winding road through the trees to a beautiful 20-acre certified wildlife habitat/monarch way station. The primary landscaping consists of sunny flower beds; large hosta-filled shade gardens; a koi pond with waterfall; a koi pond with a small stream loved by the birds and other critters; a butterfly garden; archways covered with flowering vines; and a large gourd arbor. There are 10 acres of pristine grow-whatever-wants-to, traversed by a meandering path of zinnias; a wetland area; a prairie area; beehives; and don't forget to visit the chickens!

INPAWS Now on Facebook

Laura Hohman has taken the initiative to set up an INPAWS Facebook page! South Central Chapter has had one for some time now, and it is very popular. Signing up is easy, and the group already has 225 members. Belonging to it is entirely optional.

The purpose of the page is to give people who want to use this social networking tool the opportunity to chat about wildflowers, pass on information about what is blooming where, and possibly get help with identifying a plant. This open forum is not controlled by INPAWS but carries the INPAWS name and promotes the INPAWS mission. There is no cost to join or to INPAWS to maintain the page.

2010 Stiltgrass Summit

The River to River Cooperative Weed Management Area is hosting a research and management summit on the invasive Japanese stiltgrass (*Microstegium vimineum*) on August 11–12 at Southern Illinois University in Carbondale, Illinois.

Japanese stiltgrass, also called Nepalese browntop or eulalia, is an aggressive invader of forested habitats in the eastern United States. This summit will discuss recent research and management techniques and will feature presentations, panel discussions, field trips, and poster sessions. For conference updates, check www.rtrcwma.org/stiltgrass.

Garden Work Days at Indiana State Museum

Some of you may be aware of the native plant gardens on the grounds of the Indiana State Museum: the Watanabe Garden on the east side of the museum, and the Turner Garden over the underground parking garage. They were installed when the museum was built. Although INPAWS was not a sponsor of these gardens, several INPAWS members have been very active in maintaining them.

The gardens have undergone changes since they were installed. Some areas planted as prairie have gradually become shaded by the trees that were initially planted. In natural areas this would all get sorted out on its own, but things require a little more planning and work in a landscape planting. INPAWS is developing a plan to help with this transition, as well as to correct some other usage problems that have developed. While some of this will require heavy equipment, much of it involves moving desirable plants to the right areas and removing unwanted plants. This will require the efforts of more than the three or four volunteers who now maintain the gardens.

Volunteer days for garden work at ISM are scheduled the first and third Saturdays in July and August, from 9:00 to 11:00 a.m. If this project appeals to you, contact Dan Anderson (danjand1@sbcglobal.net) or Donovan Miller (djbamiller@aol.com). They will be glad to show how you can help.

Odwalla Plant a Tree Program

You won't have to get down and dirty this summer to help plant trees for the Indiana state park system. With the ease of a mouse click, the Odwalla Plant a Tree program allows you to donate a tree to the state at no cost to you.

Odwalla brand (maker of juices and food products) designates \$200,000 to plant trees in state parks each year. You can make a donation at www.odwalla.com/plantatree by choosing Indiana as your preferred state. You will make the designation via Facebook, which you'll want to sign up for anyway to keep up with INPAWS' Facebook doings.

Please encourage your friends and family to visit the Plant a Tree site and help direct trees to Indiana state parks.

Save the Date for AC2010

INPAWS' Annual Conference 2010 will be held on Saturday, November 6, at the University of Indianapolis.

Join your indigenous friends for a great day focused on the role of native plants in biodiversity. Keynote speakers will be conservation biologist Carole Brown, who wrote her master's thesis on *Conservation Gardening and Sustainable Landscaping*; and Carolyn Summers, landscape architect and adjunct professor at Westchester Community College (NY), who just released *Designing Gardens with Flora of the American East* published by Rutgers University Press.

INPAWS Chicago Bound

By popular demand, INPAWS is offering another overnight excursion, this time heading northwest—to Chicago and environs—for the weekend of July 24–25. The itinerary includes:

Saturday—Chicago Botanic Garden, including an afternoon behind-the-scenes tour of the garden's Plant Science Center with Kayri Havens.

Sunday morning—Morton Arboretum and its Schulenburg Prairie, guided by Gerould Wilhelm.

Sunday afternoon—Chicago's Millennium Park and Piet Oudolf's Lurie Garden.

The cost for two days and one night is \$190 single occupancy; \$145 double occupancy. These amounts cover all expenses (transportation by bus, room at Courtyard by Marriott in Highland Park, two breakfasts, admission fees) except for two lunches and two dinners. The bus will leave from Indianapolis (location tba) with possible pickup points along the way.

Space is limited, so reserve your spot early by contacting Karen Hartlep (khartlep@interdesign.com) or Ruth Ann Ingraham (rai38@sbcglobal.net). INPAWS members get first preference; non-members add \$40.00 to the price, or join now to get the members price and first preference.

Seed Collecting Opportunity

The Dixon National Tallgrass Prairie Seed Bank at the Chicago Botanic Garden is working to conserve the genetic diversity of our native vascular flora by collecting and preserving seeds from across the tallgrass prairie region in long-term cold storage. Banking seeds is an efficient way to preserve plant populations because seeds store the breadth of genetic diversity present in a population in small packages and, for most species, can do so for a very long time. These tiny packages, once dried to 15% humidity and stored at -20°C , can be preserved, on average, for 200 years.

Long-term storage of native seeds can serve as insurance that a species genome is protected against extinction in a rapidly changing world. For instance, we can predict where climate shifts may occur due to the effects of global warming, collect seeds in these critical areas, and bank them for future reintroduction into suitable habitats at a later date. The alarming reduction of native plant populations across the tallgrass prairie region signifies now more than ever the importance of seed banking.

Ultimately seeds of multiple populations will be collected for over 3,000 plant species of the tallgrass prairie. Initially 543 species important for habitat restoration will be collected across twelve ecoregions. The goal is to collect seeds from one plant population (if it exists) in each of the twelve ecoregions for all 543 species.

This enormous task cannot be accomplished without lots of help from organizations like INPAWS. The Seed Bank needs knowledgeable members to collect the species from our target list within your ecoregion. You can view our Restoration Collection Target List with ecoregions at <http://cbgseedbank.org/restorationspecies.html>. You can also find our seed collecting protocols (http://cbgseedbank.org/contractors_forms_protocols.html).

We provide a stipend of \$90 dollars for each collection and shipping to CBG with our FedEx account. If there is a species in your ecoregion that you feel is important for preservation that does not occur on our list, please contact us so we can add it. The more seeds secured in the bank, the more valuable the collection will be. The collection will be

divided with one part remaining in the seed vault for long-term storage, another part held in at least one redundant storage facility off site, and still another held in the seed vault as a resource for research and restoration projects.

If you can help, contact us so that we can get you started. Also, if you have colleagues who may be interested in participating, please pass along this invitation.

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<http://www.savetheplants.org>



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Coming Up

Saturday, July 10
Landscaping with Native Plants 2010 Garden Tour
Register at www.inpaws.org

Saturday–Sunday, July 24–25
Chicago Excursion
Reserve your space now

Saturday, November 6
INPAWS 2010 Annual Conference
University of Indianapolis

Watch for announcements of INPAWS events and field trips in the mail, via e-mail, and at www.inpaws.org.

New INPAWS Members

CENTRAL CHAPTER

Jenny Bodwell
Peter Braddock & Kathy Licht
Joseph Dwenger
Donna Foster
Denice Haines
Rita & Garry Hill
Crystal Hinant
Jay D. Keith
Julie Kempf
Erin Krebs
Roxanne McGlone
Martha & John Rardin
Sara Reagan
Nancy Sinclair
Tammy Stevens

EAST CENTRAL

Nancy J. Brown
Karen L. Fairfield
Julie Jeffers
Sandra Lamp

SOUTH CENTRAL

Bloomingfoods Market & Deli
Cheryl Engber
Bill & Becky Freeman

WEST CENTRAL

Bob Allison
Tracy Beall



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PLANT DETECTIVES

Barbara Plampin, PhD, Shirley Heinze Land Trust

Bickie's Legacies

My friend Emma Bickham ("Bickie") Pitcher died, age 95, in Kalamazoo on April 15, 2010. Dean of Students in the University of Chicago Business School before retirement, she became, in off-hours, a highly respected amateur naturalist (Sagamore of the Wabash, Michigan Botanical Club Lifetime Achievement Award). As a Dunes resident, she thoroughly explored the newly established (1966) Indiana Dunes National Lakeshore and successfully bridged the gap between its Science Division and a public eager to understand and enjoy its wonders. She gave numerous slide shows on native birds and flora, most followed by related hikes.

I can still see Bickie's eyes grow round and hear her exclaim "Hot dawg!" when a hiker found an interesting plant. Flowers were FGB ("full and glorious bloom") or PP ("past prime"), expressions still used here 25 years after she moved to Kalamazoo for health reasons. Every hike had a purpose, such as understanding an ecosystem, beyond naming the plants. We were on time; we learned Latin names. When Bickie demonstrated bird banding, she let each of us release a bird. Afterward, everyone tactfully ate the strawberries she had forgotten to wash.

Her move to Kalamazoo meant that each one of her "groupies" was to carry on an aspect of her work. One was to order books for the local nature

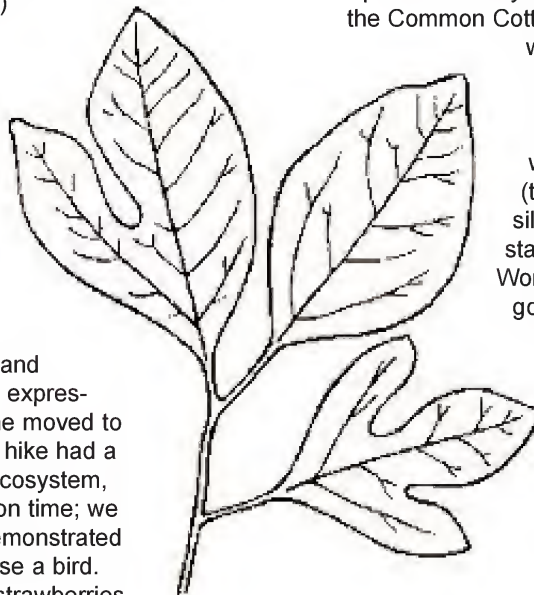
store, another to lead bird hikes. I was to be a botanist, give slide shows, lead plant hikes.

Bickie's legacy to all of us in Indiana includes *Up and Down the Dunes* (1987), collected nature essays with an engaging, conversational blend of science, literature, and personal, hands-on experience. They celebrate the miracle of the common ("Ode to the Common Cottonwood"; how to find the golden-crowned king with his feet in a tub hidden in the common blue violet). Bickie provides useful advice, some to share with children, on beachcombing (make a necklace of crinoids?), habitats (foredunes, wet places), kinds of oaks and their acorns (the insides of black oak cups are lined with silky hairs), favorite fall flowers (rough blazing star, soapwort gentians are two), "The Wonderful World of Weeds" (kudos to Queen Anne's lace and goatsbeard; banishment for purple loosestrife), seeds (200 seeds in many a mildkweed pod; Bickie counted them), spring's arrival. We get the report of her 13-year study of bird population changes in a Lakeshore prairie. Readers who collect all the books cited will have a good Dunes library. They will also learn Latin names.

Here's Bickie's haiku on enjoying sassafras:

*Sassafras mittens?
Delight of the young at heart.
Blue seeds please black bear.*

Up and Down the Dunes is close to being out of print. The Shirley Heinze Land Trust is planning to re-issue the book.





AC2010

INPAWS Annual Conference Preview

Conserving Biodiversity with Native Plants

The survival of our families into future generations, indeed, the survival of the human species, depends upon the preservation of biodiversity—the genetic diversity captured by the wide variety of indigenous plants, animals, fungi, and microorganisms in a healthy ecosystem.

We emphasize *indigenous* species, because these have functioned together successfully for thousands of years, maintaining a complex array of interrelationships and interactions with the natural environment.

Biodiversity is essential to the ecosystems upon which our lives depend. Healthy ecosystems provide us with clean water, cleansed air, and topsoil. They sequester carbon in the atmosphere. They cycle nutrients, providing food in its many forms and materials for shelter, clothing, and medicines. And they nurture our psychological and spiritual well-being.

For all these reasons, INPAWS' 2010 annual conference, chaired by Jeff Pitts, is shining a spotlight on biodiversity. Prime objectives—to foster conversations on the role of native plants in biodiversity conservation, and to inspire actions that slow the incidence of biodiversity loss.

Watch for a registration brochure in the mail or download it at www.inpaws.org. Register by October 16 to take advantage of the discount.

In the meantime we invite you to meet the featured speakers and preview their topics.

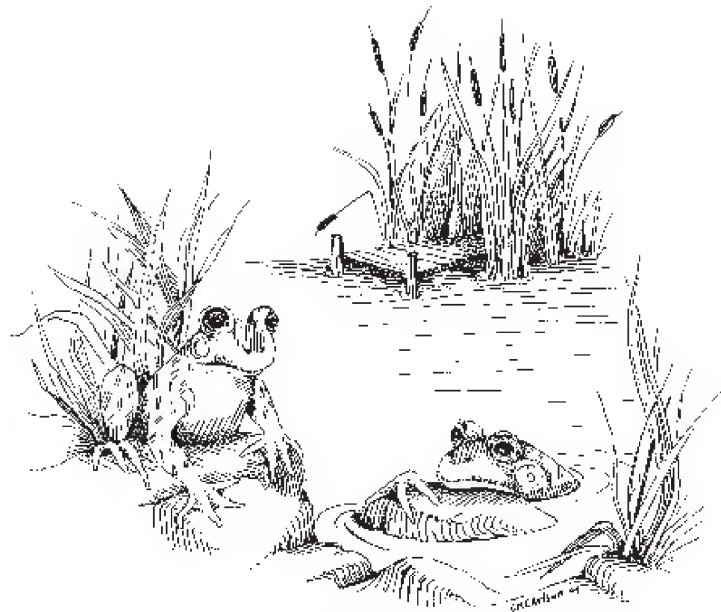


Illustration by Chris Carlson in R.A. Ingraham, *Swimming with Frogs*.

Inside

Garden Tour Report.....	3	Digital Herbarium.....	10
AC2010 Speakers	4	Crested Coralroot	11
Small Grant Guidelines	6	Chicago Trip Report	12
Round-Leaved Dogwood... ..	7	Events/Field Notes	14
INPAWS Large Grants	8	Cypress Mulch.....	16
Brown County Ravine Project	9		



INDIANA NATIVE PLANT and Wildflower Society

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All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

Please submit text and photos via e-mail to wwford@comcast.net or via land mail to INPAWS JOURNAL, 6911 Cabernet Way, Indianapolis IN 46278.

Submission deadlines for specific issues are as follows:

Spring
February 23 for April 1 mailing

Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the value, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

News and Views

Information to be shared with INPAWS members may be directed to membership@inpaws.org.

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INPAWS JOURNAL is printed on 100% post-consumer recycled paper.

Partnering

I have been involved in some way with environmental issues most of my adult life, sometimes through organizations and sometimes through my work as a civil engineer. One thing I've noticed is that often people see only the issues they are involved with as important. Sometimes they even disparage the efforts of other parts of the environmental community. For some, the issues are water and air quality, for others, recycling, and still others are focused on the preservation of natural areas and wildlife habitat.

Although more people are coming to understand that all of these are part of the same overall issue, I still see occasional lapses. I see active outdoorsmen and women who don't recycle. I see people who are committed to tightening water and air pollution restrictions, yet show no interest in preserving natural areas. Even among those who share an interest in preservation, I see fights about whether to allow hunting or timber harvesting.

If we are to succeed in making this world a better place for those who come after us, we have to look for what we have in common with others and work together toward that goal. Too many people out there would be content to live in a world of pavement and high rises, or think of green space as manicured lawns dotted with Bradford pear trees. My view—and I think yours, too—is that this is not the world we want to leave to future generations.

The world I want to leave will have air we can breathe without damaging our bodies, water we can safely swim and fish in, and natural areas where native flora and fauna can thrive. Some of these natural areas should be large, so that species that need large areas can survive. But some need to be close to where people live, so that everyone has the opportunity to enjoy the contact with nature that we need for our mental well-being.

To accomplish this, we need to work side-by-side with partners who share this broad view, even if we don't agree with all of their priorities.

—Tom Hohman

RETROSPECTIVE

INPAWS Garden Tour Rocks!

Day dawned July 10 on the results of weeks of panic-stricken preparation!

Eight valiant gardeners had done their level best to work with the wayward extremes nature had managed to throw at them, and had made their gardens worthy of viewing by the "knowledgeable" and maybe even "critical" eyes of not just their fellow INPAWS members and friends but the public as well. (What they all needed to know is that members and friends, at least, are already predisposed to be impressed—especially if they have been fortunate enough to see these gardens already!)

As stated, day dawned—and what a beautiful day it was. After an unbelievably rainy June and early July we were blessed with sunshine, a breeze, and relatively low humidity and temperature. It must be due to these circumstances, and the tendency for gardeners to be early birds(!), that people started turning up at least a half-hour before the announced opening time of 10:00 a.m.

By noon it was already obvious what a success the whole event was going to be, and by 5:00 p.m., as the last visitors departed an hour after official closing time, an exhausted but exhilarated set of gardeners could rest on their laurels—and remove that one weed they missed and hoped no one saw!

INPAWS extends heartfelt thanks to all those who helped organize the event, to the garden owners and their weeders/garden fairies, to the countless volunteers who greeted the public, and to all who took advantage of this beautiful summer day to see what all sizes of gardens using predominantly native plants (known to some as "weeds") can become.

—Hilary Cox, Garden Tour Committee



Dr. Rebecca Dolan “Cutting-Edge Native Plant Resources”

Professor of plant ecology at Butler University, past INPAWS president, and frequent contributor to *INPAWS Journal*, Becky Dolan directs the 100,000-specimen Friesner Herbarium, a reference collection of pressed and dried plant specimens that document the flora of Indiana growing outside of cultivation. She is currently researching how the flora of Indiana has changed with development and urbanization.

Assisting in Dolan's presentation will be associates Marcia Moore, Janice Gustaferro, and Kay Yatskievych (author of *Field Guide to Indiana Wildflowers*) who are taking part in some exciting recent projects involving Indiana flora.



Carole Brown Morning Keynote

“Ecosystem Gardening: Why Native Plants Are Essential”

Conservation biologist Carole Brown is passionate about teaching people to manage their properties to benefit the environment, conserve natural resources, and create wonderful wildlife habitats. Based in Philadelphia, she is the founder of EcosystemGardening.com and author of *Ecosystem Gardening* (Fall 2010).

Brown has spent 20 years as a consultant designing, installing, and maintaining gardens for people who want to share their space with indigenous wildlife.

For her master's thesis (“Conservation Gardening and Sustainable Landscaping”),

she researched a variety of interconnected subjects: ecology of birds, amphibians, and reptiles; pollination; mammals; butterflies; insect-plant interactions; botany; ecological restoration; sustainable landscaping; soil biology; and water conservation.

Brown is an avid birder, “butterflyer,” naturalist, and photographer. A rabid bibliophile, she loves to share fresh research from new reads with all who will listen.

“Ecosystem Gardening [is] the idea that views every property—whether a small residential backyard or acres of woodland or the grounds surrounding your business—as an ecosystem.”

—Carole Brown

Dr. John Whitaker, Jr. “How Mammals Help to Conserve Biodiversity”

Dr. Whitaker, professor of mammalogy and vertebrate ecology at Indiana State University, first realized his affinity for nature at the age of seven. His area of special expertise is bats. He has authored many technical works, among them, *The Audubon Field Guide to Mammals*, *Mammals of the Eastern United States* (with W. J. Hamilton, Jr.), *Mammals of Indiana* (with R. E. Mumford), and *Mammals of Indiana: A Field Guide*.



Jennifer Hopwood “Making Native Pollinators Feel at Home”

Jennifer Hopwood is Midwest Pollinator Outreach Coordinator with the Xerces Society for Invertebrate Conservation (St. Louis), where she provides resources and training for pollinator habitat management, creation, and restoration to agricultural professionals and land managers.

Hopwood holds a master's degree in entomology from the University of Kansas, where her research focused on bee communities in roadside prairie plantings and prairie remnants. Her presentation will focus on native pollinators, their importance to native plants, the importance of native plants to pollinators, and pollinator conservation guidelines.



Carolyn Summers Afternoon Keynote

“Designing Gardens for Biodiversity”

Carolyn Summers is the author of *Designing Gardens with Flora of the American East*, released by Rutgers University Press (April 2010). She began an atypical career as a landscape architect with the Trust for Public Land, producing an open space report for the

Harbor Herons Project that has guided preservation efforts to create an urban wildlife refuge on Staten Island. Summers continued environmental work with New York City's Department of Environmental Protection as the agency's first director of natural resources, including implementation of a new native plants policy for all agency construction/restoration projects.

Following her work with New York City, Summers came to the Natural Resources Defense Council, initiating a regional project to preserve and restore wildlife habitat and public access in the New York–New Jersey Bight (bay).

An adjunct professor at Westchester Community College, she serves on the Steering Committee of The Native Plant Center at Westchester Community College (affiliated with the Ladybird Johnson Wildflower Center) and chairs its annual native plant sale.

Jim McCormac “The Goldenrod Connection”

Jim McCormac, education specialist with the Ohio Division of Wildlife and author of *Birds of Ohio* (2004), is always in demand as a speaker for his enthusiasm and broad knowledge of the natural world. He will present a new talk on a well-known indigenous genus, the goldenrod—delving into its various uses by wildlife, its place in the food chain, and fascinating, lesser-known facts about these plants.



Conference Partners



Chicago Area Excursion

continued from page 13

designed glass domes and glittering mosaic patterns, much like the shifting views of a kaleidoscope.

What a responsible group we were, all of us reconvening by 4:00 p.m. for our scheduled departure. With an ardent appeal from Big Sue, Steven drove us north along Lake Shore Drive to Loyola University and back, giving us the opportunity to take in the beauty and allure of Chicago with its protected lakefront assets, open for the public's pleasure and recreation.

Travelers were: Bennita Kennedy, Betsy and George Wilson, Nancy Hill, Sonok Deutscher, Arlene Bow, John Montgomery, Jane and David Savage, Mike and Barb Homoya, Sherry and Phil Cartwright, Myra Bottoms, Marlene Snell, Joan Haaf, Steve and Jo Van Zant, Marian McKittrick, Rita Hupp, Sue Arnold, Debbie Davidson, Sue Nord Peiffer, Lynne Habig, Christy Krieg, and Ruth Ann Ingraham.

At the urging of most who participated in this excellent plant-oriented weekender, I encourage INPAWS to sponsor future out-of-state adventures with experts who meet us at the gardens and lift our experience above the ordinary.



Single file through Schulenberg Prairie. Photo by R.A. Ingraham.

Footnotes

1. Dr. Wilhelm, an internationally renowned botanist, is finalizing a greatly expanded *Plants of the Chicago Region*. Insect, bird, and mammal associates of the Chicago region flora will be included in this, the fourth edition. Also new will be plant morphological descriptions as done in Gleason & Cronquist's *Manual of Vascular Plants*. For more information and how you may assist in completing this publication, go to: cdfinc.com/xm_client/client_documents/FloraoftheChicagoRegion.pdf.

2. You may access the Coefficient of Conservation values of all plant species in Indiana at www.taylor.edu/academics/acaddepts/ees/pdf/fqa_report.pdf.

INPAWS Small Grant Program Guidelines

Deadline February 1, 2011

The Small Grants Program supports projects that are in line with the mission of INPAWS. Awards of up to \$1,000 can be used in conjunction with other sources of funding to promote the appreciation, preservation, conservation, utilization, and scientific study of the flora native to Indiana and to educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation. Successful award recipients **must prepare a report to share with the INPAWS membership** after the project is completed. From time to time, **larger grants may be awarded** for special projects based on presentations to the Executive Committee. All requests must be made in writing with a clear statement of how the award would further the mission of INPAWS and benefit our membership.

Application Procedure

1. **Cover sheet**, including: name of project; amount requested; location; applicant/contact person information (name, address, telephone, email); new or existing project; category that best describes the project—research, training, education, conservation and habitat, demonstration garden, etc.; prior INPAWS funding
2. **Text of proposal**, not to exceed two pages:
 - (a) Summary of the project, not to exceed 50 words;
 - (b) Clear, concise description of the project, including: How does the project further the INPAWS mission? Why is the project needed? Specific objectives to be achieved. Specific information on how INPAWS grant funds would be used, including a detailed species list of all plants and seeds to be used. Who benefits from the project—number who benefit and how. Names of organizations involved, if any, with a brief description of each, including number of members. Financial resources committed to the project from other sources, if any. Anticipated starting and completion dates of the project.
3. **Budget sheet**, showing: (a) labor, material, and program costs; (b) sources and amounts of funds already raised, if any; and (c) total cost of the project.

Two Ways to Submit Your Proposal

E-mail (preferred): Send 1 copy to smallgrants@inpaws.org, noting the name of your project in the Subject line.

Land mail: Send 4 copies, postmarked by February 1, 2011, to INPAWS Small Grants Program, P.O. Box 30317, Indianapolis, IN 46230-0317.

Saved by a White Oak

Barbara Plampin, PhD, Shirley Heinze Land Trust

Finding a rare plant is one thing; preserving it another. This is a cautionary tale about the elusive, state-rare round-leaved dogwood (*Cornus rugosa*).

In 2008, aided by detailed directions from its finder, Sally Weeks of the Purdue Graduate Forestry Department, a colleague and I located, mapped, noted associates, counted, and assessed its health and reported to the Indiana Dunes National Lakeshore on two adjacent, recently burned populations of this plant. Though numerous, the plants were almost smothered by re-sprouts of black oak (*Quercus velutina*) and maple-leaved arrowwood (*Viburnum acerifolium*) emboldened by the fire.

The shrubs or small trees grow on an oak savanna dune ridge, continuing down slope almost to the edge of a pond. Think clusters of small white flowers rather than showy flowering dogwood (*Cornus florida*) blossoms. Wilhelm describes round-leaved, or speckled, dogwood thus: "Twigs mostly yellow or yellowish green with dark purple spots. Leaves nearly orbicular." Deam notes that leaves have seven to nine parallel veins. He recommends the plant as an ornamental very attractive to birds.

Wanting to eliminate the threatening re-sprouts, the Lakeshore botanist set up an experiment: try another prescribed burn on the western population and compare results with the unburned eastern colony. Frequent fire might be the answer.

After the test fire, he sent us in July 2010 together with a "bio tech" helper to assess results. Our bio tech was a seasonal employee familiar with plants growing in the marsh and bog she was helping to restore. She was to have a kind of holiday and learn some oak savanna plants.

Of course we remembered where the dogwoods grew. Off we set, minus map and without re-reading our report. We easily found the unburned eastern population, counted plants, and assessed their health. The re-sprouts were just as thick or thicker than in 2008. A

few dogwoods had desperately sent up leaf-free leaders, hoping to catch the sun.

Now for the western plants. A fallen tree nearby appeared to separate the unburned eastern plants from what must clearly be the burned western dogwoods. They were in the same pitiable state as their eastern brothers.



Round-leaved dogwood, *Cornus rugosa*.

But our bio tech wanted to know how black and white oaks differed. What was that tall oak farther west? Let's go see. Forty-five meters west grew the true, western—and burned—dogwoods near what proved to be a white oak. In spite of the recent fire, black oak and maple-leaved arrowwood sprouts, assisted by sassafras (*Sassafras albidum*), already knee high, were starting to smother the dogwoods. The only difference: no naked leaders. We theorized that heavy precipitation in 2009 and 2010 had assisted the vigorous re-sprouting.

Would failing to find the western dogwoods have mattered? Yes. We wouldn't have known the limits of a prescribed burn as clearly. Moral: do your homework.

In my opinion, saving these round-leaved dogwoods may depend on herbiciding the re-sprouts. The State is already trying out herbicide.

References

- Deam, Charles C. *Shrubs of Indiana*. Publication No. 44, The Department of Conservation, State of Indiana, 1924.
- Swink, Floyd W. and Gerould S. Wilhelm. *Plants of the Chicago Region*. Fourth Edition, Indiana Academy of Science, 1994.
- Weeks, Sally S. *Native Shrubs in Indiana*. Purdue, forthcoming. Now available as a CD from Purdue Extension Store, 888-398-4636 or www.the-education-store.com. Note: Sally recommends Smith, Welby. *Trees and Shrubs of Minnesota*. Minnesota Department of Resources, 2008.

Giving Large

INPAWS Dollars Fund Mission-Fulfilling Projects

INPAWS has been giving money to fund worthy projects almost since its beginning. In 1997, it established an endowment funded by individual contributions and additions from the operating budget at the Council's discretion. The intent was for the endowment to yield earnings that could be used to advance INPAWS' mission in the form of grants and awards.

Thanks to INPAWS historian Ruth Ann Ingraham, who poured through piles of board meeting minutes, we now have a record of all the grants and awards made by INPAWS over the years.

Annual small grants of \$1,000 or less are awarded based on proposals submitted by February 1 each year and evaluated by the Grants and Awards Committee, now led by Jackie Luzar. (See proposal guidelines on page 6.)

Other, larger grants have been made on an ad hoc basis as requests have come to the board. Find the full list posted at www.inpaws.org.

Large Grants History

1998

\$2,500 to CILTI (Central Indiana Land Trust Inc.) to help purchase Burnett Woods

\$1,000 to Cornell University garlic mustard bio-control initiative

1999

\$1,000 to Cornell University garlic mustard bio-control initiative

\$2,000 to NICHES (Northern Indiana Citizens Helping Ecosystems Survive) land trust for the Weiler-Leopold Nature Reserve

2001

\$1,000 to The Nature Conservancy and Kankakee Nursery

\$2,000 to NICHES land trust for purchase of sand barrens

2003

\$2,000 to NICHES land trust

\$1,500 to the Brown County Public Library, Ravine Project

2005

\$1,500 to the Brown County Public Library, Ravine Project

\$3,000 toward the purchase of Duning Woods by the Whitewater Valley Land Trust, Inc.



2007

\$5,000 to WFYI for its Natural Heritage of Indiana video project

2008

\$3,000 to NICHES land trust for land acquisition surrounding Black Rock, Sizemore Tract at Fisher Oak Savanna, and Bachner Nature Reserve

2009

\$4,000 to CILTI for purchase of Westover Addition, adjacent to Burnett Woods

Evaluation of Large Grant Requests

INPAWS officers and committee chairs have recently begun discussing ways to refine the process for evaluating large grant requests. Usually such grants are to help organizations purchase large tracts of land for conservation. It has been customary for those seeking funds to make a presentation to the INPAWS Council, after which the Council takes an up or down vote.

Ellen Jacquart, INPAWS' Invasives Chair, has drafted the list of relevant criteria shown below. Applicants will be asked to provide written responses in advance of their presentation, and points will be assigned to each criterion, enabling a more systematic evaluation of proposals. Your feedback is welcome; contact Ellen at ejacquart@tnc.org.

Grant Criteria for Land Purchases

Map of tract and surrounding land provided?

Total acres

Acres of natural land and acres of disturbed land (crop land, fields, concrete, etc.)

Plant communities present, especially rare communities

Rare plant species present

Invasive species present, and to what extent (common or occasional)

Surrounding land use and connectivity to other natural areas

Who will manage the site, and how will it be managed to assure its native biodiversity will be protected?

Is there ongoing funding for stewardship of this area?

Will the funds provided be leveraged, and if so, how?

Are there plans for an educational use of the land?

We think such grant criteria will result in a fairer proposal review process and ensure good stewardship of INPAWS funds. They will also provide helpful guidelines to those seeking funds. A final version will be posted on the INPAWS website.

Brown County Ravine Project

Ruth Ann Ingraham

Chair, Brown County Public Library Ravine Project

This summer the Ravine Project of the Brown County Public Library in Nashville received the Brown County Community Foundation's top environmental honor—the Environmental Leadership Award presented by the Bill Lloyd Family. At the foundation's annual meeting in July, INPAWS members Ruth Ann Ingraham, Project Chair, and Donna Ormiston, Volunteer Coordinator, stood before a few hundred county and community leaders and told the story of this largely volunteer effort.

From expansive windows on the east side of Brown County's handsome library, faced with native stone, patrons and visitors may now look down to a small stream meandering through a gently sloping wooded ravine. Eight years ago, non-native invasive species screened this area from view. Several of us saw that noxious screen as an opportunity to educate Brown County's residents and landholders. We would teach them about the area's beautiful natural heritage, the threat posed by invasive plant species, the means to eradicate these invasives, and ways to protect our woodlands into the future.

"Let's remove the invasive species and return the woodland to a more natural state," we said. Wanting to be good stewards, the library's director, Yvonne Oliger, and the library board agreed and backed the plan we presented. We would need a professional team to do the initial, challenging landscaping tasks, and funds needed to be raised. INPAWS took a leap of faith in 2003 when it committed \$3,000 to the project—a significant portion of the necessary amount. EcoLogic, Bloomington, were hired. First they treated the invasive species: bush honeysuckle, oriental bittersweet, Japanese honeysuckle, multiflora rose, privet, burning bush, and autumn olive. They followed up by planting native grasses and sedges to control erosion and arrest the opportunistic return of invasive plants. (More recent invaders are dame's rocket, *Miscanthus sinensis*, and Japanese stiltgrass.)

From the beginning we promoted the educational component. Ellen Jacquart of The Nature Conservancy and Gene Bush of Munchkin Nursery made presentations. Volunteers handed out

literature at the county fair. We initiated free invasive plant surveys for landowners. Volunteers helped in the ravine and served on the steering committee. Through the hands-on experience of manually controlling invasive species and introducing natives, we all learned about the virtues of native plants and the threat of invasives.

Those of us on the steering committee continue a friendly debate about the best way to return a severely altered habitat to something natural. We have swung from pole to pole—from a designed garden using all natives to letting nature take its course, dependent upon the existing seed bank. For now we have taken a middle ground and run an ongoing experiment.



When we were considering a well-defined, designed garden, we erected a deer exclusion fence with gates, but maintenance was impossible. Deer frequently found easy entry, and our introduced forbs, shrubs, and trees were browsed to extinction. We decided to remove the fence. Now when a plant that we've introduced survives, we plant more. That list includes yellow ladies slipper orchid, ferns (ostrich, Christmas, and maiden hair), turtlehead, *Aralia racemosa* or American spikenard, buttonbush, spicebush, Virginia bluebells, wild ginger, wild geranium, hairy wood-mint, and woodland poppy. From the seedbank have emerged prairie trillium, round-leaved golden ragwort, joe-pye weed, and may apple, along with several tree species. I anticipate others. As in nature, change will come gradually and without fanfare to our ravine garden as new plantings take hold and other natives become more robust.

To quote Donna, "Library patrons and visitors witnessing this change will begin to see the potential for woodland gardening and learn that it is not necessary to cut or clear our indigenous trees and understory to have lovely flowers and shrubs. The library hopes residents of Brown County will appreciate the beauty of a landscape designed by nature."

Thanks again to INPAWS for awarding grants that have funded projects around the state. And thanks, INPAWS, for making the Ravine Project a reality.



Yvonne Oliger, Bill Lloyd, Donna Ormiston, and Ruth Ann Ingraham celebrate the Ravine Project's Environmental Leadership Award.

Illustration by Chris Carlson in R.A. Ingraham, *Swimming with Frogs*.

Friesner Collection Goes Digital

More than 1,900 specimens of ferns and orchids that grow in Indiana can now be seen and studied online, thanks to an \$8,000 grant Butler University received from the Indiana State Library.

The plants are part of the collection in Butler's Friesner Herbarium, which houses specimens from more than 43,000 Indiana plants as well as 55,000 samples from elsewhere. (Herbaria are systemic collections of pressed and dried plants with labels that document who collected them, when, and where. The focus of the Friesner Herbarium is plants that grow outside of cultivation.)

INPAWS's own Rebecca Dolan, director of the Friesner Herbarium, hopes that having this information available will make more people aware of the collection and its historical value. "As people are interested in the history of a county, they can look back at our records," Dolan says. "Many of our specimens were collected in the 1920s, '30s, and '40s, before there was a lot of development in most of the state."

Digitizing the first 1,900 specimens began a year ago as a joint project between the Herbarium and Butler's Irwin Library. Lewis Miller, dean of the libraries, was the principal investigator on the grant. Butler partnered with IUPUI's library to photograph the plants, then linked the images with data from each specimen. (A sample is shown at right.) Irwin Library Catalog Librarian Janice Gustaferro entered the pictures and information into a searchable database.

Dolan said the process went so well that a second grant—this time \$20,000—will enable the University to digitize another 6,400 specimens from the sunflower/daisy family.

"The goal is to get all 43,000 Indiana specimens digitized so people don't have to come here to see the specimens," she says.

The Herbarium's collection is kept in folders inside lockers that protect the specimens from light, water, and insects. Dolan says the plants are useful in a variety of ways—for professional botanists interested in species distributions, for students and teachers studying Indiana natural history, for people trying to establish historical landscapes, and for people interested in the spread of non-native plants.

The digital images, along with specific information on each plant, are available at <http://content.butler.edu/cdm4/about.php>.



Scientific Name	<i>Achillea millefolium</i>
Formal Name + Authority	<i>Achillea millefolium</i> L.
USDA Plants Database Name	<i>Achillea millefolium</i> L.
Common Names	Common yarrow
Family Name	Asteraceae
County where specimen was found	Unknown
Locality	between Frankfort and Delphi
Habitat Description	roadside
Collector	William Rhoades
Collection Date	1929-06-01
Verified by Deam?	Yes
Additional Info on Label	No
Link to USDA Plants Database Info	http://plants.usda.gov/java/profile?symbol=ACMI2
Link to Butler University Botanical Studies Journal	For more information on historical Indiana botany, see the Butler University Botanical Studies Journal at http://digitalcommons.butler.edu/botanical/
Collection Name	Butler University Friesner Herbarium Digital Collection
Identification Number	4430
Rights	Copyright Friesner Herbarium of Butler University. For questions regarding reproduction or use, please contact BUT Herbarium Director Rebecca Dolan at: rdolan@butler.edu .

In Quest of Crested Coralroot, *Hexalectris spicata* (Walter) Barnhart

Richard B. Lyons, Indiana Master Naturalist

There it was, right where Bill said it would be. I spotted it from the car as I backed into the gravel pull-off on the side of Cold Friday Road. My quest for the elusive *Hexalectris spicata* (crested coralroot), one of Indiana's rarest orchids, had ended.

My botanist friend Bill Thomas had started me on the search four years earlier when he gave a tantalizing description of this mysterious and beautiful orchid and said that it could occasionally be found in our area. I had been looking for it ever since. Thanks to Bill, I was finally going to get to see one. He had e-mailed me the night before that he had found a *Hexalectris* alongside the road in Harrison County. I wasted no time, packed my camera, jotted down some directions, and headed out the next morning.

The Indiana range of *Hexalectris* encompasses only a few counties at the southern end: Harrison, Floyd, Clark, and Washington. Its habit of intermittent flowering, sometimes going for years between appearances, makes it an elusive quarry. One needs to be in the right place at the right time to see this orchid.

Although *Hexalectris* is not a true coralroot, as its common name implies, it shares many characteristics with the genus *Corallorhiza*. The plant is leafless with little or no chlorophyll and only briefly appears during flowering. State botanist Michael Homoya lists it as "saprophytic and/or hemiparasitic," and botanist Ronald A. Coleman refers to it as "mycotrophic." Not needing photosynthesis as a source of energy, this orchid has no need to appear above ground except during flowering and sexual reproduction. The flower spikes arise from a segmented rhizome, and often multiple spikes will come from a single rhizome. This year Bill found one with sixteen spikes!

The flower spikes range from pale grey to yellowish tan with darkening shades up to a deep burgundy brown. Each spike consists



of a raceme of up to 15 flowers. I found the spikes to be as short as 4 inches and as tall as 2½ feet. Because of their tendency to droop over and show their most inconspicuous side, the flowers appear dull and uninteresting at first glance. One needs to get down to the plant's level and look up into the mouth of the flower to catch its full beauty. From this angle, the yellowish tan of its purple striped petals and the brightly purple striped white lower lip become evident. This is a true beauty.

It took me four years and the help of my friend Bill to find my first *Hexalectris*. It was well worth the wait and proved to be just the first of many sightings this year. I searched for it in Harrison, Washington, and Clark Counties and found it in all. My final count came to 83 flowering spikes!

References

Homoya, Michael A. *Orchids of Indiana*. Indiana Academy of Science, Indiana University Press, 1993.

Coleman, Ronald A. *The Wild Orchids of Arizona and New Mexico*. Comstock Publishing Associates, Cornell University Press, 2002.

New INPAWS Members

CENTRAL CHAPTER

Mary Ann Crayton
Martha Gooldy
Melissa Luebke
Suzanne Murray
Sharon Patterson
Sandy Riley
Bill Ringer

SOUTH CENTRAL

Rob Chambon
Linnea Good
Richard Kuhn & Dona Bergman
Becky Langford
Sharon & Charles Sorenson
Steve & Debbie Taylor
Richard Vicens

WEST CENTRAL

Lynne Habig
Dee Kilburn
Laura Lamb

Chicago Area Excursion

July 24-26, 2010

Ruth Ann Ingraham, Fellow Traveler

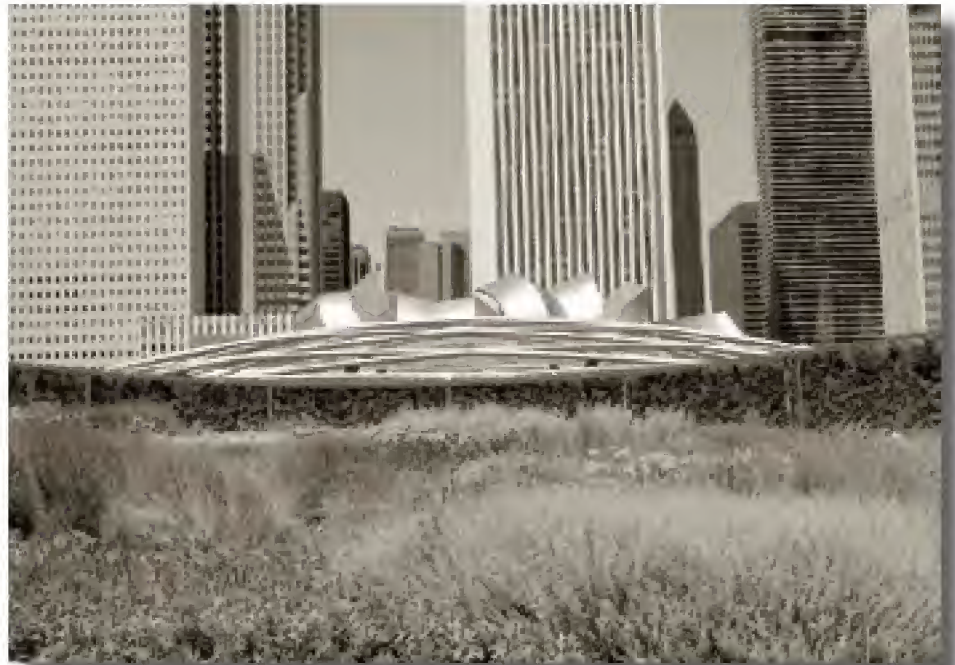
Around 6:30 a.m. on July 24, a Saturday, I approached a parking lot near 103rd and Pennsylvania Streets, Indianapolis, with two boxes of Starbucks coffee. Since our bus was not scheduled to pull out until 7:00 for the weekend trip to Chicago, I expected to be one of the first on the scene. I planned to greet INPAWS members with a hot cup of mocha java as they arrived. It was not to be. The glistening coach that would carry 27 avid native plant lovers to the Windy City stood watch over a veritable tailgate party crowded with early risers. I was late!

Karen Hartlep had provided mounds of strawberries, blueberries, and grapes in large bowls along with granola bars and citrus juices for our promised continental breakfast. I quickly lined up the coffee—strong and stronger roasts—and added my homemade breakfast bars and whole wheat zucchini coffee cake to the array.

This punctual group was not to linger over the impromptu feast, however. Our driver Steven Hill whisked us away at the appointed hour, and we cruised up the highway toward Saturday's destination, the Chicago Botanic Garden in Glencoe, Illinois, one of Chicago's northern suburbs.

The sky darkened in northwestern Indiana, as predicted, and as the showers began we resigned ourselves to the possibility of a rainy visit to the Botanic Garden. Steve kept moving at a legal speed—until the dreaded Dan Ryan Expressway found us clogged in several lanes of traffic moving at a snail's pace. The cause, we later learned: flooding on the interstate from torrential rains.

In short, we arrived an hour behind schedule. Once out of the coach, we scattered with the promise to keep our cell phones on in case we needed to be found (if lost) or reminded (if late). We still had five and a half now sunny, warm hours to savor the panoply of gardens there—aquatic, bonsai, dwarf conifer, fruit and vegetable, native plant, English oak meadow, prairie, and waterfall, among many others. We would also dine at the cafe, shop, and spend an hour with Kayri Havens at the



Lurie Garden in Millenium Park, downtown Chicago. Photo by Debbie Davidson.

new Rice Plant Conservation Science Center, a highlight of our trip.

Some of us walked in circles trying to find the Science Center, but by 1:00 p.m., everyone was gathered around Kay, formally titled the Medard and Elizabeth Welch Director, Plant Science and Conservation. Kay told the story of the Center, led us up inside the gold level LEED-certified building to view the experimental green roof (one section with natives and one not) and then through individual, state-of-the-art laboratories. (You can take a virtual tour of this 38,000 square-foot, multi-million dollar facility at <http://www.chicagobotanic.org/research/building/>.)

At twenty-nine minutes and thirty seconds past four o'clock, I phoned Steven to let him know we were all assembled and waiting. "I'll be there in thirty seconds," he quipped, thirty minutes and zero seconds past four o'clock being our appointed time to re-board the coach.

Check-in at the nearby Courtyard by Marriott had its moments. The breakfast buffet we thought was included was

restricted to cold items only "on the honor system. Mike had a question: "So if I make a waffle and let it cool down before I eat it, would that be okay?" IMA Greenhouse keepers Sue and Lynne inserted their key in the lock to their assigned room, opened the door—and saw a man! Fortunately, the man was one of our own, Steve Van Zant, and fortunately not in a compromising situation. When Nancy slid between her bed sheets to put her feet up and relax...she discovered sheets that were damp and clammy, not crisp and dry. Making up for glitches, The Marriott changed our room codes to entitle us to a full hot breakfast buffet Sunday morning.

Independent souls that we are, Saturday's dinnertime saw us going in different directions. Some met family, some met friends, and most walked to a nearby deli or squeezed into a Marriott shuttle that took us to a family-owned trattoria in Northbrook where we sat outside at a long, checkered-cloth covered table arranged in advance for us, drank wine, and enjoyed a very pleasant evening.

The coach was spotless Sunday morning at 8:30 when we boarded it for the

short drive west to the Morton Arboretum. Our celebrity guide there was Gerould Wilhelm, principal botanist/ecologist with the Conservation Design Forum; former botanist with the Arboretum; and co-author, with Floyd Swink, of *Plants of the Chicago Region*.¹ (In 1994 Gerry was the first to explain the Coefficient of



Celebrity guide Gerould Wilhelm. Photo by George Wilson.

Conservatism concept, a Floristic Quality Assessment measuring tool.²) He boarded the coach along with "hitchhikers" Rich Scott and Geoffrey Savage. (Geoffrey's wife Jean works for the Arboretum and prepared packets for us.) Before leaving the parking lot, Gerould pointed out the virtues of the expansive "green" lot with a water-permeable surface and landscaped islands. "Parking lots can be a thing of beauty and, properly done, last a lifetime," he declared.

A security officer in a pickup truck had to lead us to the Schulenberg Prairie because portions of the Arboretum were inundated by the same rainstorm that had flooded the Dan Ryan. On the way, Gerould vehemently expressed the necessity of getting kids into nature. Had he and Richard Louv, author of *Last Child in the Woods*, met and commiserated, I wondered? They share the same passion, as do most of us.

Past an oak savanna and across a foot bridge, we followed a wide path and then turned into the prairie with Gerould forg-

ing ahead. A few of us with bare legs and arms turned back at that point, leary of biting insects and prickles. At least 115 plant species grow in this prairie which is burned annually in keeping with historic practice. The information packet that Jean provided helped us later when trying to recall the summer to late-summer prairie plants we had seen.

Dr. Wilhelm's rapid-fire style, peppered with anecdotes, left many of us reeling as we tried to wrap our minds around the multiple ideas he was presenting. Rich, who came prepared with pen and large notebook, did his best to capture what he could and later shared his notes with participants via e-mail. (He encouraged me to borrow from his notes for this article, which I did.)

Anyone who has pulled armloads of garlic mustard and stuffed it into black bags to "cook in the sun," as we've been instructed, would be impressed by the appearance of the savanna bordering the Arboretum's restored prairie. The under-story of this woodland was once a sea of garlic mustard, but in July it was a mauve cloud of Joe-Pye weed. The Arboretum has used controlled burns only in that area, and garlic mustard eradication is virtually complete. Wilhelm said the only time burning does not control garlic mustard is when the soil has been so profoundly altered through human activities that the entire seed bed of native plants has been removed. It should be noted, though, that

Arboretum staff and volunteers do pull garlic mustard in many areas where burning is impractical, expensive, or where their collections of living plants are at risk.

Prairie management was another hot topic. As Rich recorded, gradation of opinion varies along a scale of "frequent but not annual fire" to "no fire." Wilhelm said opinions continue to diverge even though 100% of pre-settlement accounts of burns by Indians in Iowa, Illinois, and Missouri use the term "annual."

Our final stop of the weekend was Millennium Park, an award-winning center for art, music, architecture, and landscape design in the heart of Chicago. We had voted to leave a half-hour early and skip the dinner stop en route back to Indianapolis, but still we had three full hours to do as we pleased under a brilliant blue sky. Millennium Park includes engaging sculpture, delicious food, and The Lurie Garden, designed by Kathryn Gustafson, Piet Oudolf, and Robert Israel and incorporating primarily native plants. The five-acre garden is said to exemplify the "New Wave Planting Style" and "pays homage to the City's motto, 'Urbs in Horto' (City in a Garden), which refers to Chicago's transformation from its flat and marshy origins to a bold and powerful city."

Some of us crossed Michigan Avenue to see the exquisite interior beauty of Chicago's Cultural Center with its Tiffany-

Continued page 6



Dinner out. Photo by the waitstaff.

A Nasty Thistle

Our trusty state botanist, Mike Homoya, informs us that the intriguing thistle pictured at Pat Cornwell's property in Floyd County (page 5 of the Summer 2010 issue) is actually musk thistle, a nasty non-native invasive. "It may be gorgeous as the author states," Mike says, "but it's a problem species in places." Thanks Mike, we're lucky to have your keen botanist eye. Pat, who later identified the thistle on her own, is now watching in horror as it seeds itself in her lovingly restored field.



Editorial Foofah

Our apologies to Red-tail Conservancy which we unintentionally omitted from the list of land trusts operating in Indiana in the last issue of *INPAWS Journal*.

Red-tail Conservancy operates in East Central Indiana and has hosted several INPAWS hikes. It is headquartered in Muncie.

Invasive Species Council Launched

Ellen Jacquart reports that Indiana's new Invasive Species Council held its first meeting August 19 after long delays in getting the gubernatorial appointees designated. Meeting at The Nature Conservancy offices in Indianapolis, the Council reviewed their mission, introduced themselves, and discussed the work groups to be created for specific projects.

Ellen proposed a work group on invasive plants, which would expand the state's existing invasive plant network and build on the efforts of the Invasive Plant Species Assessment Working Group (IPSAWG) which she headed up. Council members agreed to form an Invasive Plants Advisory Council (IPAC) with Ellen as organizer and Kris Krouse of Shirley Heinze Land Trust as liaison to the Council.

Likely priorities will be to (1) develop an Invasive Plant List for Indiana that the Council can formally adopt, and (2) review state policies and rules regarding invasive species and make recommendations to fix deficiencies or inconsistencies.

The members of the Invasive Species Council are as follows:

Designated by Law (Six Members)

- Indiana Agriculture Director, Indiana State Department of Agriculture—Sara Christensen (representative)
- Commissioner, Indiana Department of Transportation—Bill Fielding (representative)
- Indiana State Veterinarian, Indiana State Board of Animal Health—Dr. Sandi Norman (representative)
- Aquatic invasive species coordinator as designated by the Director, Division of Fish and Wildlife—Doug Keller
- Terrestrial invasive species coordinator as designated by the Division Director, Department of Natural Resources—Phil Marshall
- Dean, College of Agriculture, Purdue University—Steve Yaninek (representative)

Appointed by the Governor (Five Members)

Two representatives from industry:

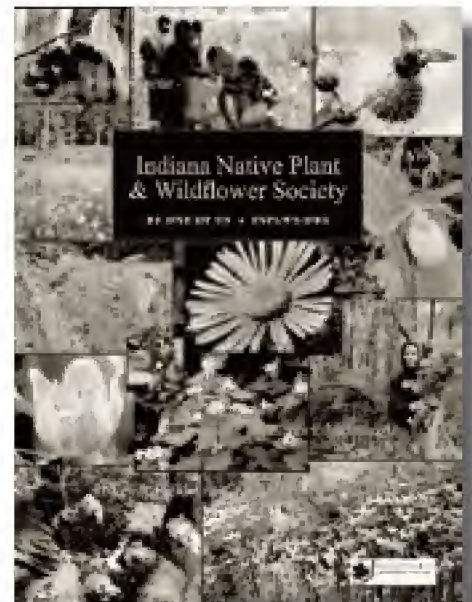
- Philip Gramelspacher, Past President, Indiana Forestry and Woodland Owners Association
- *To be determined*

Two representatives from land trusts, conservation, and/or parks and recreation organizations:

- Kristopher Krouse, Executive Secretary, Shirley Heinze Land Trust
- Stuart Lowry, Director, Indy Parks and Recreation

One representative from the research community:

- John Jachetta, Dow AgroSciences



New INPAWS Poster Available

Responding to a number of requests for a graphic that could give INPAWS a presence at meetings where a full-scale table display is impractical, Wendy Ford has created a new poster highlighting INPAWS activities. The 18 x 24 inch poster can be

mounted on foamcore to sit on a table, or it can hang from a wall. Download the PDF file at www.inpaws.org and send it to a PIP or Kinko's to be printed out at full size.

2010 Small Grants Awarded

This spring, the INPAWS Grants and Awards Committee reviewed small grant proposals and awarded the following grants.

Little River Wetlands Project, Fort Wayne (\$750): To fund an Education Garden at the Arrowhead Prairie preserve featuring native plant species. Information will be provided on plants of the garden and adjacent preserve and their relationship to the wildlife, especially pollinators.

Native Plant Rain Garden Demonstration Project, Middlebury (\$750): To enable the Parks Department to incorporate two rain gardens as examples of using native plants and utilizing storm water as a resource. An interpretive sign will educate the public about storm water, rain gardens, and the benefits of using native plants.

Southern Indiana Cooperative Weed Management Area, Invasive Species Landowner's Toolkit (\$500): To assist with the production of 1,000 packets of invasive species resources for landowners in Southern Indiana.

Zion Nature Center Education Gardens, Zionsville (\$300): To fund two gardens on Nature Center grounds—a Children's Butterfly Garden planted with natives to support educational programs; and a Woodland Garden in which natives will be restored to prevent re-invasion by removed exotics.

Monroe County Courthouse Native Landscape (\$400): To convert an area of the Monroe County Courthouse lawn currently occupied with non-native and invasive plants into a demonstration area featuring a variety of Indiana native plants. Signage, a brochure, and garden tours will explain the value and possibilities of native plants.

Watch for reports on these projects in INPAWS Journal. Guidelines for 2011 small grant proposals are on page 6.

Black Walnut Killer Heading East

Thousand cankers disease, previously confined to the western states, has just been found in Tennessee, the first site in the eastern U.S. This disease kills the eastern black walnut (*Juglans nigra*), raising concern about the impact it could have on this native tree in Indiana.

The damage begins when a tiny black beetle tunnels under the bark of affected branches, enabling fungal infection and the formation of cankers that eventually kill the phloem. The walnut twig beetle and the newly identified *Geosmithia* fungus occur only on walnut species. Death of the tree occurs within three years of initial symptoms.

Keep an eye out for these signs and symptoms and report them to district foresters:

- Yellowing foliage that progresses rapidly to brown wilted foliage, then branch mortality.
- Distinctive circular to oblong cankers in the phloem under the bark.
- Dark amber stains or cracking on the bark directly above a canker.
- Tiny bark beetle entrance and exit holes visible on dead and dying branches.

For photographs and detailed information about thousand cankers disease, see publication NA-PR-02-10 (May 2010) available from the USDA Forest Service at www.na.fs.fed.us. Follow the "Publications" link to "Pest Alerts."

Monroe County Promotes Natives

Monroe County—Identify and Reduce Invasive Species (MC-IRIS) is launching a "Go Green, Grow Native" project in the county. They want to take advantage of the INPAWS website, specifically the list of vendors/designers who comply with IPSAWG standards on invasive plant species.

Coming Up

Saturday, November 6

AC2010

INPAWS Annual Conference

8:30 a.m. to 5:00 p.m.

University of Indianapolis

Download registration brochure at www.inpaws.org.

Watch for announcements of INPAWS events and field trips in the mail, via e-mail, and at www.inpaws.org.

They will contact sellers and provide them with the IPSAWG brochure on invasive plants, encouraging them to drop the invasives listed. If they do, MC-IRIS will ask INPAWS to add them to the list on the website and give them some publicity.

MC-IRIS will also encourage sellers to provide more native species. As a reward, they'll get special "Go Green, Grow Native" plant tags to put in the native plant pots.



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PLEA FROM A SISTER SOCIETY

Don't Use Cypress Mulch

Why kill a tree to grow a flower? That's the question a Florida Native Plant Society chapter is asking in its brochure urging people not to use cypress mulch. (The brochure can be downloaded at <http://suncoast.fnpschapters.org/pdf/mulch.pdf>.)

The next time you're tempted by the stacks of cypress mulch available at the gas station or garden supply store, consider this:

- **Thousands of acres of cypress are logged every year from Florida's native wetlands simply to produce mulch.** Cypress mulch used to be produced mainly as a by-product of lumber operations, but the increasing demand for mulch has led to the use of whole trees—whole forests—for nothing but mulch.
- **The old idea that cypress is superior to other mulches is not true anymore.** The old-growth cypress harvested prior to the 1950s had a reputation for being rot- and termite-resistant. But those trees have all been taken except for the few saved in Florida's nature preserves (they can live up to 1500 years and grow up to 150 feet tall and 25 feet in girth). It takes hundreds of years for a cypress tree to grow the heartwood that used to have those properties. The young cypress that are harvested today are not decay or pest resistant and do not make a superior mulch.
- **Florida's unique cypress forest is a treasure with an important ecological role.** It naturally filters pollutants and serves as a reservoir for floodwater, so it is essential for protecting the ground water. It provides prime habitat for woodpeckers, wood storks, limpkins, several types of owls, opossums, bobcats, and wood ducks.

- **You can help save cypress forests by using environmentally friendly mulch.** Switch to alternative mulches for your home and business landscaping, and ask your friends and county government to do the same. If you don't find alternative mulches at your garden supply store, enlighten the manager and request alternatives.

Alternative Mulches

Recycled Yard Waste Mulch made by your county or city from recycled urban plant debris is inexpensive or even free in some areas. To locate your closest source, contact your Solid Waste Department or county Extension Service.

Hardwood Mulch Made of shredded bark left over from milling hardwood trees such as maples and oaks, this sturdy mulch compacts over time so it resists blowing or washing away.

Pine Bark An excellent mulch with long-lasting color, it is a by-product of the timber industry. Pine bark is very effective in weed and seedling control.

Pine Needles The jury is out on whether commercially available bales of pine straw are harvested sustainably, but pine needles on your own property are an excellent mulch that allows more moisture to penetrate to the soil than chunkier mulches.

Fallen Leaves The leaves you rake, especially oak leaves, are free, abundant, and make a great mulch.



Designing the “Type A” Native Plant Garden

INPAWS Journal (in the guise of Jeff Pitts) caught up with Karen Bird Hartlep recently to talk about one of the stops on the 2010 INPAWS Garden Tour—the Frank Hatcher residence.

Karen, a landscape architect at a multidisciplinary firm in Indianapolis, designed Frank’s backyard landscape about seven years ago. She graduated from Purdue University and is a long-time member and past president of INPAWS.

So Karen, how did this project get underway?

Frank worked as an electrical engineer at the same firm I did. We worked together for a number of years and became friends, talked every day, and shared a lot of lunches. I knew he was building a new house, and I’d been telling him for a long time about native plants and about how they’re the only way to go. I pretty much hounded him all the way through the construction process, told him I would design the landscape *pro bono* but it had to be natives.

Start us out by describing the context. What kinds of issues were you dealing with?

Frank’s house was in a new subdivision; their lot was about a quarter-acre. There appeared to be no topsoil, which was probably true of every lot in the addition. It’s not unheard of in residential development that before the subdivision is graded or infrastructure goes in, the topsoil is stripped off and sold. It should be stockpiled for redistribution later, but often it isn’t. So unsuspecting homeowners are left with only subsoil to plant in—and they wonder why they have so much trouble with their landscapes! It’s criminal.

So right away you’ve got no topsoil to work with.

Right. And you could see that what was developing in this subdivision was little more than a turfgrass wasteland. The landscape package you got from the developer included a Bradford pear in the front yard and a few spireas. That was it.

Inside

SWINPAWS Founded.....3	Callery Pear.....10
INCA Priorities.....3	Homoya Book Preview .12
Letha’s Fund Update.....6	Plant Detectives.....13
Zion Nature Center.....8	Events/Field Notes.....14
Small Grants History.....8	



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INPAWS JOURNAL is published quarterly for members of the Indiana Native Plant and Wildflower Society. Material may be reprinted with the permission of the editor.

All are invited to submit articles, news items, and event postings of interest to our membership. Acceptance for publication is at the discretion of the editor. INPAWS welcomes opposing viewpoints.

Please submit text and photos via e-mail to wwford@comcast.net or via land mail to INPAWS JOURNAL, 6911 Cabernet Way, Indianapolis IN 46278.

Submission deadlines for specific issues are as follows:

Spring
February 23 for April 1 mailing

Summer
May 23 for July 1 mailing

Autumn
August 23 for October 1 mailing

Winter
November 23 for January 1 mailing

INPAWS Mission

To promote the appreciation, preservation, conservation, utilization and scientific study of the flora native to Indiana and to educate the public about the value, beauty, diversity, and environmental importance of indigenous vegetation.

Membership

INPAWS is a not-for-profit 501(c)(3) organization open to the public. For membership information, visit www.inpaws.org.

News and Views

Information to be shared with INPAWS members may be directed to membership@inpaws.org.

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INPAWS JOURNAL is printed on 100% post-consumer recycled paper.

A New Chapter!

I just got back from an organizational meeting of INPAWS' new Southwest Chapter, SWINPAWS. Davie Sue Wallace and several others in the Evansville area have been working since last year to find enough members and interest to form a local chapter. Besides notifying area INPAWS members, she contacted people who might be interested, primarily Master Naturalists and Master Gardeners. She even ran a small notice in the local newspaper. There were finally enough members that we thought we could try it.

I arrived at the Oaklyn Branch Library in Evansville about 9:00 a.m., when the meeting was supposed to start, and immediately noticed that the library parking lot was almost full. That surprised me, because the library did not open until 9:00 a.m. I figured there must be another meeting going on.

When I went inside, I was amazed to find an enthusiastic crowd that I later learned numbered at least 75, all there to learn about INPAWS' new chapter.

They started off the day with no bylaws or officers, and ended the day with both. (A special committee had previously developed bylaws for presentation to the meeting.)

As many of those in attendance were not yet INPAWS members, we gained 13 new memberships during the meeting. I suspect we now have about 40 family memberships in the area, representing about 60 individual members. We don't yet have an exact count.

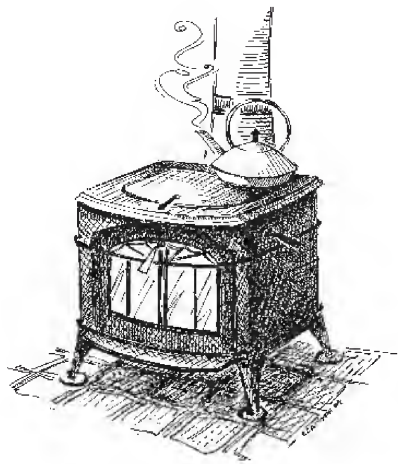
I congratulate Evansville area members for this amazing start. The new officers are: Davie Sue Wallace, President; Dona Bergman, Vice President; Pam Locker, Treasurer; Harlan Michelle Gorman, Secretary. Others who helped with the meeting preparations were Kathy Eicher, Chuck Price, Rhonda Schenk, and Tom Virgin.

As the meeting drew to a close, the new chapter members were already talking excitedly about which projects they were going to tackle first.

—Tom Hohman

Note: The new chapter comprises these counties: Dubois, Gibson, Knox, Perry, Pike, Posey, Spencer, Vanderburgh, and Warrick.

Drawing by Chris Carlsen in R.A. Ingraham, *Swimming with Frogs*.



INPAWS PARTNERS

INCA Legislative Priorities 2011

Indiana Conservation Alliance's seventh annual Conservation Day at the Indiana Statehouse once again engaged Indiana legislators in conversation about conservation. Governor Daniels was on the agenda to talk about the importance of DNR's new initiative focusing on the Wabash River.

Each year almost 30 organizations that make up the Alliance zero in on areas where they hope to influence legislation during the current session. INCA's 2011 legislative priorities include:

1. \$1 million per year funding for the **Indiana Heritage Trust**, the state's only dedicated land acquisition program for conservation. This visionary program sets aside important lands for state and local parks, Fish and Wildlife Areas, Nature Preserves, State Recreation Areas, and Historic Sites.
2. \$500,000 per year funding for **Clean Water Indiana**, created to protect and enhance the quality of Indiana's lakes, rivers, and streams by reducing the amount of polluted stormwater runoff entering surface and ground water. The program provides technical expertise to help urban and rural property owners complete projects that conserve soil and water.
3. Passage of legislation to create a **Sustainable Natural Resources Task Force**. The Task Force will complete a programmatic and funding needs assessment of natural resources and will report to the Natural Resources Study Committee.
4. Passage of legislation to **restrict the use of phosphorus in lawn fertilizers**. Phosphorus, a nutrient necessary for plant growth, causes a number of ecological problems at excessively high concentrations. Phosphorus-polluted runoff into waterways and reservoirs throughout the state greatly contributes to the spread of blue-green algae blooms, which can produce toxins and make water unsafe.
5. Passage of legislation to **authorize local governments to issue PACE bonds**, an innovative mechanism for financing energy efficiency and renewable energy projects. With PACE financing, no up-front costs are incurred and the property owners' annual energy savings typically exceed the annual property tax add-on for the bonds.

INPAWS members are urged to call, write, and visit their state senators and representatives to underscore their support for conservation, with particular emphasis in these five areas. For more information, contact INCA Coordinator Angela Hughes at The Nature Conservancy, www.tnc.org.

Type A Native Garden

continued from page 1

Yikes! So, what about the homeowners; what kinds of goals did they have?

Well first of all, they just wanted to focus on the back yard. This was the space they intended to use, so their energy and money were going there. Frank's primary goal—he was very clear about this—was privacy.

He wanted to screen off the back yard so that he could...

Run naked through the... No, seriously, they wanted to turn their back yard into a sort of private outdoor room—an extension of the house into the outdoors—where they could have cookouts and a place to just hang out. Frank's an architect by training; he'd designed a deck out the back door and was building it himself. He wanted some patio space too where there would be room enough for a big grill and a couple of tables.

There was also a desire to create a separation from the park next door. They had selected a lot adjacent to the park, which effectively multiplied their yard by several times: their kids could play there and practically be at home. But that park has a basketball half-court and gets pretty busy, so they wanted a screen between it and them.

So privacy was numero uno. What else?

Frank wanted his landscape to be neat, well-kept. He's a very tidy sort. He was skeptical that we could achieve this with natives because he'd seen my yard, which is pretty wild-looking. He also wanted something more or less immediate; he wanted it to happen fast.

Interesting. So Frank wasn't convinced he could get a well-kept landscape with natives. How did you persuade him to give it a go?

Part of it was that he trusted me. We've known each other for a long time. When they lived in Sheridan, periodically he would ask me landscape-related questions. It wasn't that he cared so much about his landscape in those days. But maybe he'd buy a rose, for example, because they decided they needed a shrub in a certain spot, and it would die; so I'd teach him a little bit about soil amendments. Or he'd ask for a recommendation for a good shrub for another application, and I'd recommend a versatile native shrub, like *Viburnum dentatum*, and it would be just perfect for that application; he'd take note of that. So I had some credibility with him.

I also think he believed he needed help with this project and was willing to take a gamble on the native thing. He really wanted to create this private outdoor space, but knew he didn't have any experience with a large planting installation or with planting design. I assured him that we could do it—with natives—and that it would feel well-kept. And after all, my services were free.

Free is good. Talk us through the design process.

We started with the privacy priority—how to create this live screen around the back yard outdoor room. Frank really like the idea of a tall, layered vegetated screen, with lots of color. So we sort of worked from the outside in, with canopy trees near the property line, then smaller, ornamental trees, then shrubs and finally herbaceous perennials. At the same time,



◀The newly planted garden. ▲The mature look. ►The reward.

we were careful not to create something contrived: we didn't want a uniform or regimented layer of stepped planting that followed the property line.

Frank's deck created some geometry for the interior of the space; it came off of the house at an angle. We were also intent on minimizing maintenance concerns, one of which was how to accommodate mowing the lawn portion. Because of the park next door, there was no real concern about giving up lawn space, which allowed more freedom in creating deep layered planting beds.

What we came up with were these large sweeping curves with lawn to the interior and native planting on the exterior. The curves were established with brick borders installed flush with the grade so that the mower wheels could ride on top of the brick pavers. The pavers were laid perpendicular to the bed edge to provide an 8" border—substantial enough to create a visual edge and a comfortable maintenance border. This clear delineation between lawn and planting provided the neatness factor that I had assured Frank we could achieve.

So you focused on and achieved the homeowners' first two goals, privacy and a well-kept appearance. What about Frank's desire for immediate results? And how about the color piece?

Well, frankly (no pun intended), it was amazing how fast this landscape developed. The trees and shrubs grew at a rate you might expect. The perennials, though, just took off.

How do you account for that?

Two things: soil prep and good plant material. At my recommendation, Frank tilled about four inches of spent mushroom compost into the soil layer, into the top foot or so. He effectively turned his mineral soil—his subsoil—into some decent topsoil which continued to improve due to the increasing native herbaceous perennial root mass. Normally we would expect native plants to thrive in native topsoil—without soil amendments—but as Frank's topsoil had been completely removed from the site, we had to create a substitute.

As for good plant material, the perennials came from an excellent source in Muncie. They were grown in open-bottom pots, which meant they started out at installation with a huge rooting advantage. They had also been inoculated with mycorrhizal fungi, which form a mutually beneficial relationship with plant roots.

Cool. And about the seasonal color?

I focused mainly on variety. In addition to trying to get color into the landscape throughout the seasons, I also wanted to create variations in texture, areas of particular interest, and a solid base of food sources for wildlife. We created a back yard oasis that pulled from a broad palette of native woodies and perennials. For canopy trees we planted tuliptree, red maple, white ash, sweetgum, and baldcypress; we also included persimmon and pawpaw. For ornamentals we used gray dogwood, serviceberry, pagoda dogwood, and one flowering dogwood. The shrub layer included arrowwood, blackhaw, and chokeberry. These woodies created screening, cover for wildlife, and structure for the space.

When it came to the perennials, our calculation of what it would take to fill the beds yielded hundreds and hundreds of plants, close to a thousand I'm sure. With the substantial number of woodies and now this massive proposed perennial installation, I thought Frank might have second thoughts—he was used to spending a very modest annual sum on plants. But he was fine with it. I think they intended to stay in this new house awhile, so it was a reasonable investment. Plus, I think he knew that to realize the desired result he needed the depth of the beds and the correct plant spacing.



So the final layer, at the ground plane, was a fairly heavy planting that included prairie dock, cup plant, foxglove penstemon, northern sea oats, nodding wild onion, blue false indigo, prairie dropseed, yellow coneflower, purple coneflower, black-eyed susan, beebalm, allium, and queen-of-the-prairie.

Between the woodies and perennials, he had something blooming from spring through late summer, and some fabulous fall color. And I have to say that we were both amazed at the number of insects, butterflies, and birds that found their way—through the barren turf wasteland—to Frank's garden. It was truly amazing, a miracle!

That's fascinating—and encouraging. Plant it, and they will come... Any other design considerations that come to mind?

One sort of subtle component we incorporated was a grass path that draws company straight into the back yard from the driveway, so for cookouts folks can go right to the party without going through the house. It also provided a means of tying the front and back together in a logical way.

One other component formed a central part of the aesthetic: we planted separate rows of black-eyed susan and purple coneflower that appeared to alternate around each other in sort of a double helix pattern that proceeded from the east side of the space west "through" the deck and into an ever-tightening spiral, like a Fibonacci spiral. In the centers we planted baptisia; the triangle outside the helix on the forward edge is nodding wild onion, and the outside triangle on the outer edge is monarda.

Sounds really cool.

It was! You could see this distinct pattern...for about three years. Then all of a sudden, with the aggressiveness of the monarda and the other self-sowing that had been going on, it all blended together. I was afraid Frank would object—he liked the idea of an organized planting scheme. But he didn't. He was fine with the plants doing what they wanted to do. In fact, he really loves the space we've created; they spend a lot of time there.

So, did you install the landscape, or help with it?

No, Frank pretty much did it all himself; I stopped by just once during installation just to see how it was going. He's very handy, plus he knows AutoCAD. We collaborated on laying out the plan in CAD, and he laid it out in the field, very precisely. He built the deck, and installed the patio and brick borders. He also installed the plant material. I coached him on the paver and planting installations, but he did the work himself. The end product was pretty much perfect.

Clearly, working with Frank was an ideal situation from a landscape architect's point of view. Is there anything you would do differently if you could do it over?

I would probably do more ecological research before finalizing the planting design. After hearing [Doug] Tallamy speak, I would probably put more thought into trying to provide specific food sources in a balanced way for a given local ecosystem.

One last question: any big-picture lessons that can be shared from your experience with this project?

One of the biggest obstacles to a wider acceptance of native planting is the perception that it is unkempt, out of control, and weedy. Historically our culture has preferred outdoor urban and suburban spaces that are controlled, sometimes to the extreme. A well-maintained appearance is a strongly held value. We can accommodate that value by using the same strategy that we employed at Frank's: create a clean, well-delineated edge to separate the natives from the rest of the world.

A hardscape edge—bricks for example—works very well; it's labor-intensive on the front end but needs little maintenance long-term. A spade edge is a good alternative, although you will need to restore it at least once a year. A fine-textured plant can also be used to create a relatively crisp border to edge your native installation. Grassy plants like prairie dropseed and sedges work well for this application. Some native ground-cover varieties also work well but may require an associated spade edge to keep them from spreading; Canadian ginger, northern sea oats and nodding wild onion are a few possibilities.

So the key word is "Edges."

Edges, yes.



From Jellybeans

Cheryl Shearer, Youth Outreach Committee

More than 20 years ago, avid wildflower fan Letha Queisser began taking neighborhood children on "nature walks" to a nearby Indianapolis park. Together they skipped rocks in the creek, picked up sticks, checked under rocks, and searched for beautiful wildflowers. With jelly beans as incentives, eager children began to identify the plants, matching their colors with those of the sought-after jelly beans.

Letha's walks gained momentum, and soon she was taking Scout troops and nearby school classes to the park. Her deep interest in botany and native plants led her to volunteer for a local florist as a means to learn more about her passion.

With those fond memories in mind, Letha's family and friends honored her love of the plant world by contributing to INPAWS following her death in 2007. Remembering how she tried to connect children with the natural world, INPAWS used the donations to establish Letha's Youth Outdoors Fund, which supports trips for school and youth groups to experience nature in an educational context. The Fund also supports youth-initiated activities that bring them in closer contact with nature. Preferred groups are those with the least access to wholesome experiences in the natural environment.

To date, Letha's Fund has enabled 1,542 youth to visit environmental education centers, nature preserves, and parks under the guidance of trained specialists and enthusiastic volunteers who can spark a respect for the natural world. The Fund also supported a Carmel, Indiana, Girl Scout troop's garlic mustard eradication project and an overnight experience in the woods for handicapped youth.

Letha's husband Dave is pleased with what the Fund has accomplished so far. Their eldest granddaughter, Lee Anne Tetrick, says, "I'm sure [Letha] is smiling down from heaven at the thought of these children being given a chance to experience some of the things that she loved most." The Quiessers' daughter Kristi Cohee adds, "I know she wanted underprivileged or inner city children to experience the parks and woods...she would have loved that the children were able to spend a night at Bradford Woods."

INPAWS co-founder Ruth Ann Ingraham attributes her own appreciation of spring ephemerals and native plants to Letha's guided walks along with plant rescues conducted by fellow members of Trailing Arbutus Garden Club. "I clearly recall her pointing out the differences between Dutchmen's breeches and squirrel corn more than 30 years ago. Letha started my wildflower education."

As the Youth Outreach Committee begins its third year, we have plans to increase the number of youth served. With school funding for field trips drastically reduced, this goal is now doubly important. Under the guidance and tireless effort of former chair Donovan Miller, the contributions that launched the Fund have been wisely used. As the new chair, I hope to see the Fund continue to grow so that more children can experience the wonder of nature.

Please consider a generous donation to Letha's Fund to help spark the love of the natural world in our youth. Or, pick one of the other ways to support our mission: volunteer as a naturalist guide, help spread the word about the easy access to the Fund (a downloadable brochure is available online), and/or serve on the Youth Outreach Committee.

Then give yourself a jelly bean for helping to keep Letha's passion for nature and wildflowers alive!



to Field Trips

Letha's Youth Outdoors Fund Annual Report

	2009	2010
Youth served	848	877
Cost per student per hour	\$4.49	\$6.24
Total awarded	\$3,810	\$5,469

Awards made to 24 schools/groups: Grantees have been public, parochial, alternative, and community schools as well as a Girl Scout troop and an organization supporting handicapped youth.

Sites visited: Merry Lea Environmental Education Center, Sycamore Land Trust, Marian College EcoLab, Holliday Park, Bradford Woods, Eagle Creek Environmental Education Center, Bean Blossom Creek and Bottoms, Lake Monroe Dam, Leonard Springs Nature Park, Turkey Run State Park, Southeastway Park.

Counties served: Marion, Hendricks, Hamilton, Morgan, Rush, Fulton, Hancock, Vigo, Clay, Boone, St. Joseph, Monroe, Ripley, Park, Elkhart.

Past and Present Committee

Members: David Quiesser, Karen Hartlep, David Benson, Ann Niednagel, Sonok Deutscher, Dan and Sophia Anderson, Chris Plews, Ruth Ann Ingraham, Tom Hohman, Julie Kempf, Donovan Miller (Founding Chair), Beth Young, Cheryl Shearer (Current Chair)

Kudos: Special thanks to Sonok Deutscher, who monitored and tracked applications for the first years of the Fund; new member Julie Kempf has taken over the grant tracking responsibilities. Special thanks to Donovan Miller for his tireless efforts in leading, launching, and nurturing Letha's Fund.

To make a donation, please contact INPAWS Treasurer Clare Oskay at oskays2@iquest.net.

Old growth forest photo by Cole Burrell.



Children's Butterfly Garden & Woodland Restoration

This project of Zion Nature Center, Zionsville, Indiana, was funded in part by the INPAWS Small Grants Program. The grant was written by Lauren Smith. The project included creating a butterfly garden with interpretive labels and replacing invasive groundcover with donated wild ginger in a restored woodland garden.



Young volunteers (kindergarten and pre-K) finish the Children's Butterfly Garden with a row of annual zinnias. Although not native, the zinnias prove more resilient to handling by youngsters than the delicate native plants.



Children pull weeds around native plantings during a public program.



Nature campers learn the benefits of native plants to wildlife in the Native Woodland Garden funded by INPAWS.

INPAWS Small Grants History

Compiled by Ruth Ann Ingraham

1995

\$50 to the Brown County Wildflower Foray

1997

Endowment established for grants and awards, funded by individual contributions and additions from the operating budget at the board's discretion

1998

\$100 to the Brown County Wildflower Foray

\$125 to purchase a brick with INPAWS name at Cool Creek Park

1999

\$500 to the Shelby County Soil and Water Conservation District

\$150 to the Brown County Wildflower Foray

\$200 for the U.S. Fish and Wildlife Integrated Environmental Curriculum development project

2000

\$100 to Brown County Wildflower Foray

\$500 toward the publication of Field Guide to Indiana Wildflowers by Kay Yatskievych

\$400 to Dee Terrell for Fall Creek Nature Center, Martinsville

\$100 to Kurt Springer for Lawrence Twp. KIND Alternative School

\$400 to John Jackson, ASLA, for Indiana School for the Blind, Monon Trail stop

2001

\$500 to Avon Outdoor Learning Center to purchase native plants for the center

\$200 to the Brown County Wildflower Foray

\$500 to IU Press to underwrite Marion Jackson's *Field Guide to Indiana Trees*

2002

\$500 to IU School of Public and Environmental Affairs student service group to purchase native plants for urban wildlife habitat to surround SPEA building

\$200 to Brown County Wildflower Foray

\$500 to Muscatatuck Wildlife Society, Seymour

2003

\$500 for two hillside plantings by the NICHES land trust near the I-65 and SR-43 interchange



Welcome SWINPAWS! Pictured with INPAWS president Tom Hohman are our new Southwest Chapter officers (left to right): Secretary Harlan Michelle Gorman, Treasurer Pam Locker, Vice President Dona Bergman, and President Davie Sue Wallace

\$100 to Redtail Conservancy Land Trust

\$500 to St. Thomas Aquinas School

2004

\$472 to Mary Damm, IU graduate student, for her research on the role of mycorrhizal fungi in the sand prairie and savanna communities of Northwest Indiana

\$300 to Friends of the Sands for native plant landscaping at Newton County Fairgrounds

\$500 to the Indianapolis Zoo for 13 species of native trees and shrubs to be planted at Fort Harrison State Park (project Indiana Habitat)

2005

\$400 to Tina Meeks and the Eagle Creek Gardening Committee to fund native plants and tags for their "Trickling Stream" project

\$320 to Mickey Penrod of McCutcheon High School, Lafayette, for native plants and identification markers in the school's Certified Schoolyard Habitat

\$300 to Betty Heffelfinger of Huntington County Master Gardeners for native plants in the "Historic Forks of the Wabash" demonstration garden on Miami Treaty Grounds

2006

\$500 to David Welch and Lisa Weisner, Sycamore Land Trust, to seed a half-acre at Touch the Earth Preserve in Bartholomew County

\$200 to Gus Nyberg, Friends of the Sands, for mulch, potting soil, and hard-to-germinate or slow growing native plants to landscape the Roselawn, Lake Village, and Morocco Libraries in Newton County

\$430 to Nina Evans, Indianapolis Zoo, for native plants, rocks, and compost to create a rain garden near the dining plaza

2007

\$500 to Jane Lommel for BRAG and the Binford Blvd. Native Prairie Habitat Project, Indianapolis

\$315 to Elizabeth Middleton, IU Bloomington, to purchase Baptisia leucantha seed for her doctoral research on the role of prairie soil in converting from row crops to prairie plantings

\$500 to Cathy Meyer, Monroe County Parks and Recreation Department, to purchase prairie seed mix for 1-1/4 acres to replace mowed areas in a public park

\$185 to Nancy Mattson to purchase reusable laminated plant identification sheets describing the plants in the butterfly garden at Turkey Run State Park Nature Center in Parke County

2008

\$500 to Hendricks County Soil and Water Conservation District to purchase native plants for two demonstration rain gardens at public locations in Hendricks County

\$400 to Southern Indiana Botanical Society to purchase educational materials for a native woodland wildflower garden in Floyds Knobs

2009

\$497 to Jonathan Bauer, Department of Biology, IU Bloomington, to study the effect on the native plant community of planting paw paw and spicebush after removing amur honeysuckle in Cascades Park, Bloomington

\$500 to Pat Brown, Irvington Terrace CrimeWatch, Indianapolis, to beautify the Washington Street entrance to the Irvington neighborhood by planting native shrubs and grasses

\$500 to Roy Johnson, Agricultural Science Instructor, East Central High School, Saint Leon, for high school Landscape Management students to design, install, and maintain a planting bed using native plants

\$500 to Michael Phelps, Town of Brookston, to plant an acre of native prairie grasses and forbs in the Heart-to-Heart Walking Park

2010

\$750 to Little River Wetlands Project, Fort Wayne to fund an Education Garden at Arrowhead Prairie

\$750 to Middlebury Parks Department for two rain gardens demonstrating stormwater management

\$500 to Southern Indiana Cooperative Weed Management Area to produce a landowner's invasive species toolkit

\$300 to Zion Nature Center, Zionsville, to fund children's butterfly garden and woodland garden restoration

\$400 to Monroe County Courthouse for native plant demonstration garden and signage

For Small Grant Guidelines, see INPAWS.org or the autumn issue of INPAWS Journal.



A Pear by Any Other Name...

You've probably heard of Bradford pear. How about Aristocrat pear? Or Cleveland Select, or Chanticleer? These are all cultivars of an Asian species called callery pear, which is probably the most popular ornamental tree in the U.S. Visit any subdivision or strip mall in mid-April, and you'll see rows of callery pear covered in large, loose clusters of white flowers. Those flowers are one of the reasons it's so popular; other reasons include its small size, symmetrical lollipop shape, and resistance to disease. And, once upon a time, they were also popular because the trees were sterile, so no messy fruits covered the ground.

Unfortunately, things have changed. Over the last decade, callery pear has become invasive over much of the eastern U.S., and reports of callery pear moving out of cultivation are coming in from all around Indiana. How did this formerly sterile species become a fruit-laden invader?

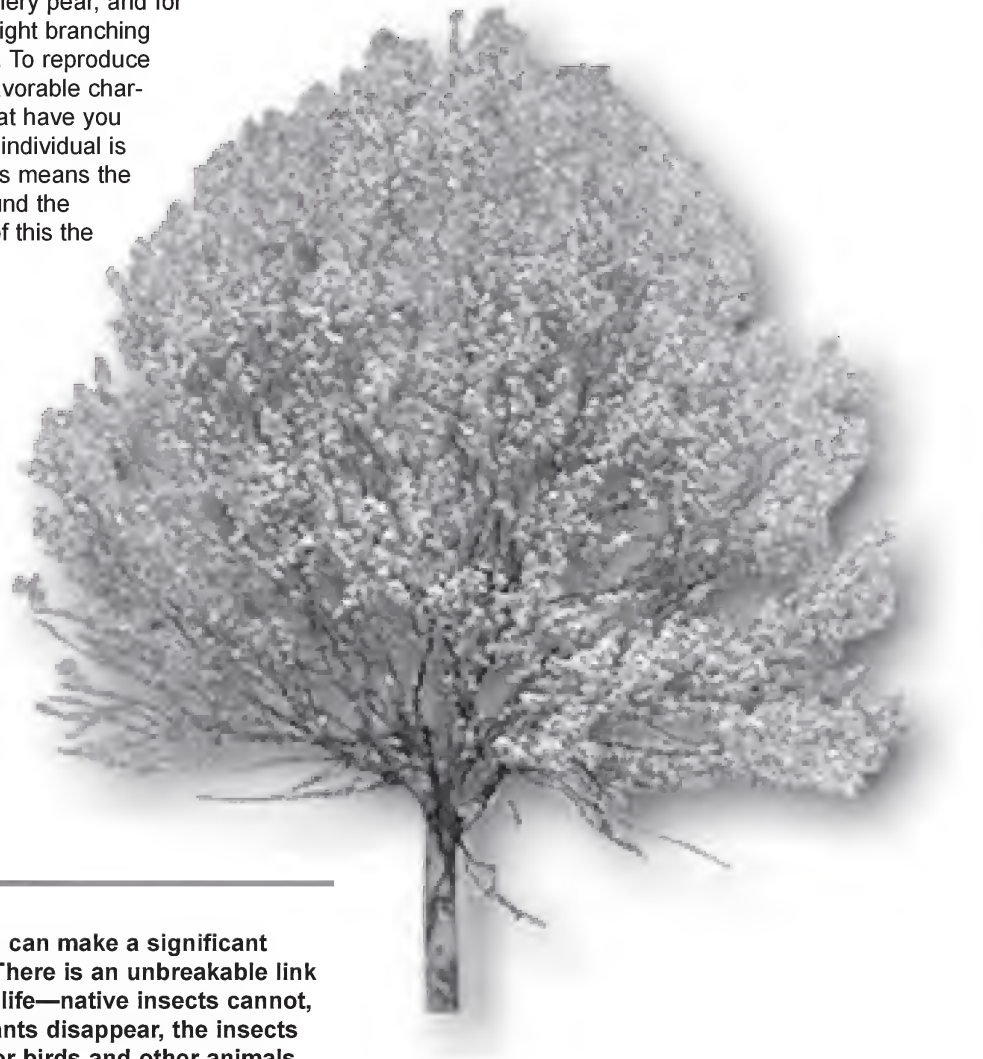
Bradford pear was the first popular cultivar of callery pear, and for many years it was the *only* cultivar. It had an upright branching form that was very popular in urban landscaping. To reproduce exactly the same genotype that resulted in the favorable characteristic—branching pattern, flower color, or what have you—cultivars are propagated vegetatively, so each individual is genetically identical to every other individual. This means the millions of Bradford pears that were planted around the country were all clones of each other. Because of this the trees were sterile, unable to produce fruits.

Fast forward a few years...it becomes apparent Bradford pear has some bad traits. Specifically, the branching pattern and weak wood almost guarantees that, given heavy snow or high winds, the tree will split and die. In response, plant breeders worked to come up with new, better cultivars that didn't have that weakness. Dozens of cultivars flooded the market and were planted across the landscape. Once these genetically different cultivars were planted next to the Bradford pears, boom! They were able to produce fruits. Lots and lots of small, brown, round fruits that cover sidewalks and allow these pears to move out of cultivation.

As Keith Clay of Indiana University once put it, the interspersed planting of all these different cultivars in urban areas has created an "orgy of reproduction" in callery pear. Perhaps the worst affected area in Indiana is Crane Naval Reserve. A nearby nursery that once grew different callery pear cultivars has resulted in a huge influx of fruits into this forested area, and it is estimated that 80% of the wooded acres are infested with callery pear.

Please do our forests a favor and don't plant callery pear! Fortunately, Indiana has plenty of other species to plant that are not invasive.

To see a list of native species for landscaping, go to INPAWS.org and click on Gardening with Native Plants.



Everyone with access to a patch of earth can make a significant contribution toward sustaining biodiversity. There is an unbreakable link between native plant species and native wildlife—native insects cannot, or will not, eat alien plants. When native plants disappear, the insects disappear, impoverishing the food source for birds and other animals.

—Timber Press promoting Doug Tallamy's *Bringing Nature Home*

GOT SOMETHING TO SAY?

Why not say it in *INPAWS Journal*? This publication reaches 500+ member households, 100+ affiliated organizations (e.g., other native plant societies, Indiana land trusts, libraries, cooperative extension offices), and occasionally 100 Indiana legislators (through additional printing funded by The Nature Conservancy).

We welcome articles on native plants, restoration projects, conservation issues, outreach efforts, botanizing expeditions, gardening with natives—anything likely to interest *Journal* readers.

Please contact the editor with your ideas at wwford@comcast.net or 317-334-1932. Article development assistance and editing are provided.

AC2010 Retrospective

Thank you for the opportunity to chair the 2010 INPAWS Annual Conference. I joined INPAWS the day after the Doug Tallamy lecture in November 2009, and my long-time colleague and friend Karen Hartlep recruited me for two projects straight away, one of which was the annual conference (my first!). So I appreciate the faith you placed in her judgment and in me.

We had about 180 registrants and over 200 people present including presenters, exhibitors, and conference staff. Interesting to note that 24 of those who filled out evaluations said it was their first INPAWS annual conference (make that 25, including me).

Here's a snapshot of the participant evaluations:

- Jim McCormac's presentations were the most popular; the Q&A time after Carole Brown's presentation, for those who could hear it, was also a hit.
- Most attendees liked the way the day was structured, but some who had to drive a ways to get there would've preferred a later start. Others indicated that the inclusion of some activity would've been welcome.
- A lot of folks liked the bookstore, and a ton of good suggestions were offered regarding speakers and topics for future conferences.
- Almost everyone who turned in an evaluation form said they would likely attend another INPAWS conference.

Organizing a conference proved to be no walk in the woods—luckily I had a lot of help! Besides Karen's indispensable help throughout the past year, a whole slew of other wonderful folks donated their time and expertise: Wendy Ford, George Peregrin, Clare Oskay, Tom Hohman, Suzanne Stevens, Mark Outcalt, Fritz Nerdling, Nancy Ayers, Terry Bowen, Sharon Bowman, Kelsey Pitts, Hanna Spiegel, Marcia Moore, George and Betsy Wilson, Betty Randall, Hilary Cox, Dee Ann Peine, Sue Arnold, Nancy Zennie, Kristy Stultz, Jackie Luzar, and Reni Winter. I'm sure I've left out someone; my apologies for that. THANKS to everyone who helped make the annual conference a success.

—Jeff Pitts, Chair

This just in: Treasurer Clare Oskay reports that AC2010 turned a profit, possibly a first in INPAWS conference history! Thanks to robust registration numbers, additional sponsorships, and a favorable deal on food and facilities, INPAWS netted \$3,513.

INCA-hoots

Wondering what INCA is? They're our ally in promoting conservation of Indiana's precious natural areas. The Indiana Conservation Alliance provides a unified voice for the protection and wise use of natural resources to enhance our quality of life. The main event of this loosely organized consortium is their annual Conservation Day at the Statehouse, which falls in late January or early February. Our representatives are Jane and David Savage, co-chairs of INPAWS' Conservation Committee.

INCA members include:

Amos W. Butler Audubon Society • Central Indiana Land Trust • Central Indiana Wilderness Club • Eagle Creek Park Foundation – Citizens Advisory Committee • Hoosier Chapter of the Soil and Water Conservation Society • Hoosier Environmental Council • Hoosier Heartland RC&D • Hoosier Hikers Council • Indiana Association of Soil and Water Conservation Districts • Indiana Chapter of the American Fisheries Society • Indiana Chapter of The Wildlife Society • Indiana Forest and Woodland Owners Association • Indiana Lakes Management Society • Indiana Land Protection Alliance • Indiana Native Plant and Wildflower Society • Indiana Organic Gardeners Association • Indiana Park and Recreation Association • Indiana Recycling Coalition • Indiana Society of American Foresters • Indiana State Council of Pheasants Forever • Indiana Urban Forest Council • Indiana Wildlife Federation • Izaak Walton League • National Audubon Society • Oxbow, Inc. • Save the Dunes Conservation Fund • Sierra Club • Sycamore Land Trust • Sycamore Trails RC&D • The Nature Conservancy

Wildflowers and Ferns of Indiana Forests – A Field Guide

By Mike Homoya, Indiana University Press (forthcoming)

Several years ago I started gathering information for a book on the plants of Indiana's most prevalent ecosystem – the Eastern Deciduous Forest. My primary objective: to create a field guide that botanists and non-botanists alike could use to identify the majority of plant species at any forested site in the state. Although the guide would emphasize herbaceous wildflowers (i.e., the usual showy ones), I also wanted to cover common species of all the vascular plant groups found in our forests, including ferns, shrubs, trees, grasses, and sedges. (Yes, except for the ferns, all of these are true wildflowers – the flowers of some just aren't of the typical size, shape, and color that we associate with the term.)

The field guide highlights almost 300 of Indiana's forest wildflowers and ferns. Most of them have statewide distribution, occurring in forest types found on landscapes ranging from wet to dry, flat to rugged. Provided for each species, in order of presentation, are common name, scientific name, plant family, general description, ecology (including habitat and companion plants), flowering date, and discussion. There is at least one photo per species.

I strove to make the guide as user-friendly as possible, thus the introductory material and species accounts use English measurements and common, non-technical language. Consider fern leaf structure, for example. The term "leaflet" is used in place of pinna, and subleaflet substitutes for pinnule. In another example I use "seed scale" instead of lemma (a part of a grass flower). I hope this word style, along with the instructional diagrams, will encourage non-botanists to learn the more structurally complicated species. For those aiming for botanical literacy, I couple the every-

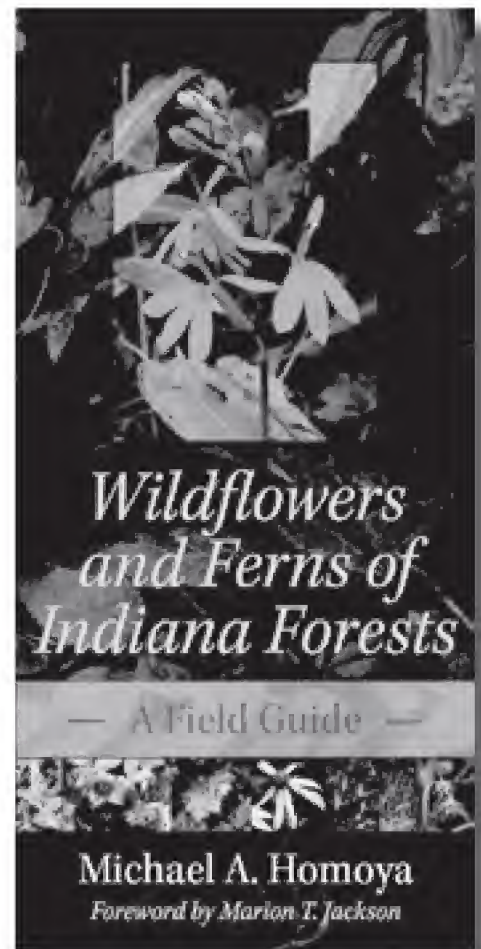
day terms with the botanical ones in diagram labels and the glossary.

Color photographs are the main identification tool of the field guide. The species and their photos are grouped according to flower color or structure. Thus an unknown plant having blue flowers should be searched for amongst those photos in the section devoted to flowers of the same color. A match of the plant in hand and the photo should lead to a correct determination. As an additional aid to identification, the plants within a particular color group are arranged by order of blooming, starting with the earliest spring blooming plant and proceeding sequentially through the growing season to the latest bloomer.

I tried to include photos showing both a close-up of the flowers and as much as possible of the full plant growing in its habitat. There are also photos of things usually not included in field guides, such as the "seals" of golden seal, the "peanut" of hog peanut, and the "yam" of wild yam. In the same vein, there are photos of "sticktight" fruits from the dozen or so forest species that have the trait of hitchhiking on your clothing. (Don't you want to know what those cursed things are that cover your socks and pant legs after a hike?) Included with my own photos are contributions by some of the best nature photographers in the state and region, including an especially ample selection by Keith Board, Ron Rathfon, and Paul Rothrock.

In the discussion section of each species is a mix of information about the plant, with topics such as life history, name derivations (both scientific and common name), family relatives, similar species, and what I call the "Indiana connection," the plant's ties to Indiana people and/or places. Here's a sample of the kinds of information provided:

Prickly ash isn't an ash at all, but a member of the citrus family (its fruits even have a citrus smell).



In Memoriam

INPAWS mourns the passing of Frederick W. Case, who spoke on American pitcher plants at our 2007 Annual Conference. Case was a Saginaw, Michigan, high school teacher recognized as an outstanding authority on orchids in North America and the genus *Trillium*. The American Association of Plant Taxonomists awarded him the 2003 Peter Raven Award, given to a deserving individual recognized for their outreach to non-scientists.

A Magic Wand?

Alfred Kinsey, the famed Indiana University professor best known for his Kinsey Report, coauthored an authoritative book on edible wild plants that includes his wife's recipe for persimmon pudding.

The name of the Salamonie River located in northeastern Indiana is derived from the Miami-Illinois Indian word *oonsaalamooni siipiiwi*, meaning "bloodroot river," likely for the abundance or quality of bloodroot growing in the area.

In addition to the species treatments, there are chapters devoted to landscaping with native forest plants; conservation and threats; and a discussion of Indiana's natural regions and general forest types. In the latter, species lists that match the community type are provided, as well as names of specific nature preserves in the state where examples of the communities and plants can be seen.

Wildflowers and Ferns of Indiana Forests – A Field Guide is expected to be in print by this summer. All royalties from the sale of the book go to the Indiana Department of Natural Resources for the purchase of land for state nature preserves.

Barbara E. Plampin, PhD, Shirley Heinze Land Trust

"Walk softly and carry a big stick," counseled Teddy Roosevelt regarding foreign policy. His advice also applies to plant detection. Not only does a big stick prevent stumbles, ease dune climbing, and keep one's footing in wetlands, it has several functions beyond these and a pointer for hike leaders. A plant detective can't easily carry a rake, but a stick, along with one's fingers, makes a good substitute.

With a stick, one can push back green (cat)brier (*Smilax* sp.) to prospect for well-hidden and well-protected populations of shinleaf (*Pyrola* sp.) or trailing ground pine (*Lycopodium complanatum flabelliforme*), or thrust aside New York fern (*Dryopteris noveboracensis*) fronds to reveal other club mosses (*Lycopodium* spp.).

When Dr. Gerould Wilhelm told me to scrape away leaf litter from a dried-up seasonal pond to look for sundews (*Drosera* spp.), I didn't discover any, but I did turn up adder's tongue fern (*Ophioglossum vulgatum pseudopodium*) with its single, spoon-shaped sterile frond surmounted by a narrow fertile blade. By using my stick to scrape away leaf litter in dried-up marshes with blue flag iris (*Iris virginica shrevei*), I've located new colonies of this ancient fern. (It's often discussed along with the earliest ferns in floras of NE North America because it's seen as one of the earliest of our ferns to evolve.)

The DNR's Tom Post taught me to remove leaf litter in fens to detect the little green, zipper-like ground-hugger, marsh club moss (*Selaginella apoda*), miniscule *Thismia americana* (no common name), family Burmanniaceae, which neighbors the orchids in evolutionary development. *Thismia* may be our most mysterious plant: it was found in North America only between 1912 and 1916 by University of Chicago graduate student Norma Pfeiffer in Cook County, Illinois. It has never been seen anywhere else in the world. Its habitat also occurs in Northwest Indiana. The "Thismia Hunt" planned for August 13, 2011, will surely include Northwest Indiana sites. Norma Pfeiffer did write her Ph.D. thesis on the plant, and both the Missouri Botanical Garden and the Field Museum in Chicago have specimens. I have seen the dried, mouse-colored, one-fourth inch specimens at the Field Museum. In real life, they lacked chlorophyll; petals number six, three of them coniving (touching) in the center of the other three, like a basket handle. Probably we won't use sticks much in our hunt for *Thismia*: we'll be down on our knees or even stomachs.

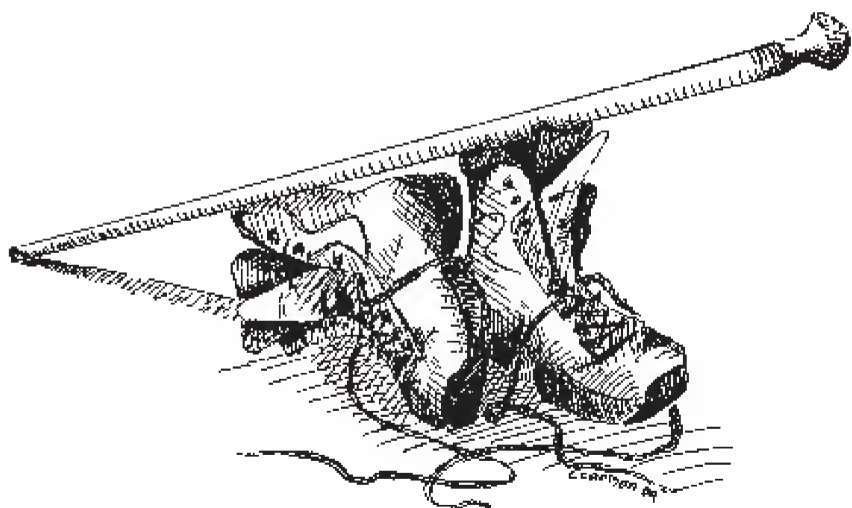
Last November, we tried to re-locate an already mapped colony of sand club moss (*Selaginella rupestris*) on a wooded dune. Removing oak leaves with sticks revealed no plants: too many hikers had left behind too many beer bottles. However, Dr. Noel Pavlovic of our local U.S. Geological Survey found this ground-hugging, somewhat resurrection-plant-like "fern ally" on a dune ridge about a mile away underneath wild lupine (*Lupinus perennis occidentalis*) when measuring young lupine plants for a study.

Next time: More about *Thismia* and earlier *Thismia* Hunts.

Book

Swink, F. & G. Wilhelm. *Plants of the Chicago Region. Fourth Edition*. Indianapolis: Indiana Academy of Science, 1994.

Drawing by Chris Carlsen in R.A. Ingraham, *Swimming with Frogs*.



INPAWS Award at INASLA

An INPAWS award was presented at November's annual conference of the Indiana Chapter of the American Society of Landscape Architects. The recipient was Kevin Parsons & Associates, in partnership with The Etica Group, which provided civil engineering for the project. The award was for designing the Eli Lilly and Company Sustainable Gardens just south of downtown Indianapolis.

INPAWS Council Considers Alternative Conference Venues

As its fall 2010 meeting, INPAWS Council discussed the pros and cons of holding the INPAWS Annual Conference in Indianapolis versus other locations throughout the state. It was decided that, for logistical reasons, especially access to an airport for out-of-state speakers and a larger pool of volunteers in Central Indiana, the conference should be held in the Indianapolis area. To better accommodate members in other regions of the state, at least every other year INPAWS will host an overnight trip outside Central Indiana but within the state, possibly at a state park.

IWF Promotes P-free Lawns

Before fertilizing this spring, Indiana Wildlife Federation asks you to consider Indiana's streams and lakes. Phosphorus should be used only on newly established lawns or those deficient in phosphorus as determined by a soil test.

Phosphorus, a nutrient plants use to develop a strong root system and store energy, can be a nuisance in excess quantities. Described as *cultural eutrophication*, too much phosphorus causes undesired algal blooms and oxygen depletion, disrupting the ecosystems in lakes and streams.

Phosphorus enters Indiana water via several pathways including urban storm water, sewage treatment plants, and agricultural run-off, but the easiest to address is residential storm water run-off containing phosphorus from lawn fertilizer.

Most lawns in Indiana do not require yearly phosphorus applications, because they are currently saturated with the nutrient. Unused phosphorus leaves lawns and travels into rivers, streams, and lakes causing algae growth. Algae deprive native aquatic species of oxygen, food, and sunlight. By managing nutrient use, we can restore Indiana's biodiversity in aquatic habitats and improve water quality.

IWF has met with and received input from the professional lawn fertilizer association, the Indiana Corn and Soybean Growers, Engledow, Farm Bureau, IDEM, NRCS, Scotts Miracle-Gro Company, and the State Chemist. A bill restricting phosphorus use in lawn fertilizer will be introduced in Indiana's House by Representatives Dick Dodge and Nancy Dembowski and sponsored in the Senate by Senator Beverly Gard.

Already, a positive change in the consumer market has begun. Scotts is advising consumers to incorporate sustainable lawn maintenance practices, and by 2012, their Turf Builder line will be phosphorus-free. An increasing number of professional applicators such as Tru-Green and Engledow Group are also going phosphorus-free.

The proposed legislation will apply to all property owners. Agricultural land and garden food production are exempt from the policy.

INPAWS members can sign a pledge to be phosphorus-free at <http://www.indianawildlife.org/phosphorus.htm>

Doug Tallamy Now on Video

Thanks to a recording shared with us (with permission!) by the Florida Native Plant Society, we have an opportunity to distribute DVDs of a Doug Tallamy's talk similar to the one delivered at the 2008 INPAWS Annual Conference and at Butler University in November 2009.

The DVDs are available for \$3 shipping and handling by request to info@inpaws.org. Please spread the word to your local garden clubs, extension offices, and gardening friends.

Speak!

INPAWS is receiving quite a few requests for speakers, which is great for us. It's a chance to get the word out about native plants, alert people to the dangers of exotic invasive plants, and recruit members for INPAWS. Trouble is, we don't have enough speakers to meet the demand.

We have a pretty good number of speakers in Marion County, but only a scattering of loyal speakers in some other parts of Indiana. We need members all over the state who are willing and able to speak to interested groups such as garden clubs, libraries, and professional organizations. INPAWS has several good transparent-slide sets, which we're working to digitize; or, you could show your own slides if you prefer.

If you think you might enjoy telling people about Indiana's beautiful native plants, we could sure use your help.

If you're interested, or even just curious, please contact Art Hopkins at plant4art@yahoo.com, or 812-372-2862.

Ticks Linked to Asian Bush Honeysuckle

Tick expert Brian F. Allan, PhD, gives us another reason not to like invasive bush honeysuckle. "I've spent a lot of time in honeysuckle," Allan says, "and I can tell you there are deer tunnels through it. So if you get down low, you can actually move through honeysuckle pretty efficiently. And you pick up a lot of ticks while you're back in there." An interdisciplinary team of ecologists, molecular biologists, and physicians tested Allan's suspicions by setting up four experimental plots invaded with Amur honeysuckle (*Lonicera maackii*) in a conservation area near St. Louis; measurements consisted of surveying deer poops and counting ticks trapped on double-sided carpet tape.

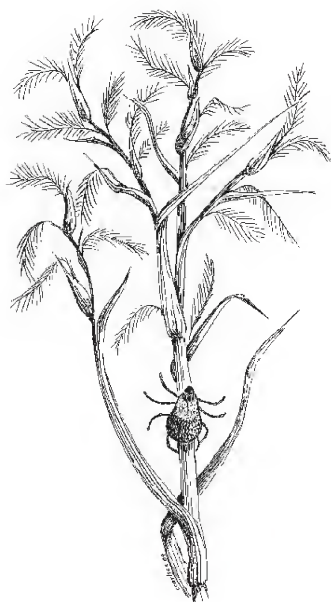
As reported in the *Proceedings of the National Academy of Sciences*, the researchers found the density of white-tailed deer in honeysuckle-invaded areas to be roughly five times that in areas without honeysuckle. The density of nymph life-stage ticks infected with bacteria that cause human disease was roughly 10

times higher. Says Allan, "[The deer] like to bed in it because it's the densest thing out there, the best structure in town. No native species comes close to achieving the same density." Allan is encouraged that these study results set up a potential case of win-win ecology. Controlling honeysuckle would benefit native species, but it would also benefit human health. (Excerpted from an article in *Science Daily*, Oct. 12, 2010.)

Great Lakes Early Detection Network

The University of Wisconsin-Madison, in partnership with the National Park Service and the Midwest Invasive Plant Network, is developing an invasive species early detection/rapid response system specific to the Great Lakes region. The website will use resources currently available through the National Institute of Invasive Species Science cyberinfrastructure (www.niiss.org; www.citsci.org) tailored specifically to the needs of stakeholders in the region. The project seeks input from scientists, natural resource managers, private landowners, and citizen scientists on what they would look for in such a system.

To participate in focus groups or be added to the project contact list, contact Alycia Crall at crall@wisc.edu or 970-227-3310.



Invasives Effort Moving Forward

The Invasive Plant Advisory Committee, created by Indiana's new Invasive Species Council a few months ago, has embarked on the creation of a science-based, transparent invasive plant list for Indiana and the development of best management practices for government agencies' response to invasives.

Ellen Jacquart is leading the invasive plant list project, and has outlined different processes according to four categories of plants:

- (1) obligate wetland species that have already been assessed through Doug Keller's Aquatic Invasive Advisory Committee (4 species);
- (2) plant species previously assessed through the Invasive Plant Species Assessment Working Group (32 species);
- (3) plants in trade that have not yet been assessed through the IPSAWG process (22 species); and
- (4) plants not in trade that have not yet been assessed through the IPSAWG process (38 species).

Tom Tremain is leading the best management practices effort, possibly simplifying a template developed in Wisconsin. A draft will be shared with relevant agencies to help refine the BMPs.

New Resource from an Ohio Ally

Gordon Mitchell of Columbus, Ohio, has kindly offered to let us post his articles written for the Ohio Native Plant Society. His exhaustive research has provided detailed plant descriptions as well as information about toxicity/edibility, medicinal uses, and legends/folklore. Find the complete list of resources at INPAWS.org under About Native Plants.

◀ Drawing by Chris Carlsen in R.A. Ingraham, *Swimming with Frogs*.

Mark Your Calendar

Saturday, April 9 INPAWS Hike University of Southern Indiana forest land, Vanderburgh County. Led by Dr. Edith Hardcastle.

Saturday, May 7 INPAWS Plant Sale & Auction

Saturday, May 14 INPAWS Hike Pennywort Cliffs, Jefferson County. Led by Bill & Maggie Adams.

Saturday, June 25 INPAWS Hike Potato Creek State Park, St. Joseph County. Led by Scott Namestnik.

Saturday, July 16 INPAWS Hike Henderson Park, Washington County. Led by Allen Pursell.

August hike date and place TBA.

Saturday, September 17 INPAWS Hike Kankakee Sands, Newton County. Led by Stephanie Frischie & Alyssa Nyberg.

Saturday, October 15 INPAWS Hike Morgan-Monroe State Forest nature preserve, Monroe County. Led by John Bacone.

Saturday, November 12 AC2011 INPAWS Annual Conference

Watch for announcements of INPAWS events and field trips in the mail, via e-mail, and at INPAWS.org.



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THE LAST WORD

Tom Hohman, Amateur Naturalist

Observations

We all know 2010 was a dry year—we've seen the effect on lawns and gardens. Even native plants were affected, although we anticipate they will be back next year. I wonder, though, about a delayed effect on wildlife.

With the scorching weather all summer and early fall I wonder what impact that had on production of fruits and seeds. My prairie plants seemed to be unaffected, flowering as if everything was normal. But I've seen some disturbing signs that trees may not have produced their normal crop of seeds. My silver maples produced their usual bumper crop (more than I would like) in June when it was wet. But I didn't notice the normal late summer crop of sugar maple seeds.

As I'm sitting here thinking about this, I realize that I've also not seen any ash seeds. I recall one winter when there was a particularly abundant crop, and it seemed to me the neighborhood squirrels



survived the winter primarily because of them. I remember seeing the furry critters day after day scrounging through the piles of seeds that had collected in the yard.

I have an ornamental crabapple tree in the front yard that always produces a large crop of fruit. Typically the fruits remain on the tree until late winter, when the birds finally eat them. Crabapples do not seem to be their favorite food, but the bitter morsels certainly come in handy when other foods have vanished. This year the birds were already gobbling them up in December.

My observations are based on a small area and hopefully are not true throughout the state. But if you notice the same thing in your backyard, you may want to make doubly sure your bird feeder remains full. And you may also want to think about your neighborhood squirrels.

That new squirrel-proof bird feeder I bought is working. I think I'll go put out some corn for the squirrels. Maybe I'll throw in a few peanuts too.